The Dissertation Committee for Robert Matthew Scordino Certifies that this is the approved version of the following Dissertation:

History Teachers' Use of Online Primary Sources to Promote Historical Thinking Skills

Committee:

Paul E. Resta, Supervisor

Min Liu

Randolph G. Bias

Christopher P. Brown

Cynthia (Cinthia) S. Salinas

History Teachers' Use of Online Primary Sources to Promote Historical Thinking Skills

by

Robert Matthew Scordino

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Dedication

For my mother, father, and sister.

Abstract

History Teachers' Use of Online Primary Sources to Promote Historical Thinking Skills

Robert Matthew Scordino, Ph.D.

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Supervisor: Paul E. Resta

This dissertation entailed a qualitative case study on Internet technology's impact on history education in the middle grades. Specifically, the focus of this study investigated how teachers use technology to foster historical thinking skills. Through the examination of four middle school history teachers' implementation of Online Primary Sources (OPS) and associated technology, three major themes emerged. The first described technology use in the history classroom by both teachers and students. The second highlighted barriers to teachers' promotion of historical thinking via OPS. The third theme exposed teachers' beliefs on history education and how the participating teachers used their position to encourage development of skills adjacent to historical thinking and technology. Four findings arose. First, rudimentary historical thinking skills were fostered in the middle school classes. Second, teacher selection of technology to support history education was influenced by both internal and external factors. Third, student background and abilities add complexity to implementation of OPS to support historical thinking. Fourth, adaptability of teachers is important to overcoming barriers. Implications are discussed for both teacher preparation and instructional designers for K-12 history resources. These

included the (1) impact of state standards and time limits for teachers, (2) understanding the varying backgrounds of students, (3) understanding that classrooms incorporate a mix of hardware, including student-owned devices, (4) the importance of incorporating teacher input for developing resources intended for their use, and (5) the continual need to focus on the pedagogical underpinnings of historical thinking in teacher education.

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CHAPTER 1: INTRODUCTION

When I was five years old, my family moved from New York to Northern Virginia. The Potomac region offers a great deal of state and national history. Some of my earliest memories of family outings involved traveling to various Civil War sites in the area. We often visited Washington, D.C. to visit historic buildings, monuments, and the Smithsonian Institution. These experiences sparked my interest in history at a young age, and I have maintained this interest throughout my life. After elementary school, my family relocated to Florida, where I was fortunate enough to have very good history teachers in junior high and high school. Many of them had taught history for a long time and lectured with such enthusiasm and detailed knowledge that it was surprising to me how some of my classmates did not enjoy the course. My experiences in Virginia and D.C., together with my experiences of my history classes led me to major in history at the University of Florida.

Entry-level history classes there were similar to what I remembered from high school: learning from lectures and textbooks, and proving the acquisition of that knowledge by multiple choice and short essay test. It wasn't until taking advanced history classes that I noticed a change in how I was learning history. I was required to write papers on topics that were much more open to interpretation, and that forced me to think in a manner that I was not accustomed to. I remember being enrolled in a senior level seminar class and being required to write a paper on the role of Great Britain in the U.S. Civil War. Until that point I was pretty naïve to the fact that Great Britain had any role; after all, the Civil War is what we had always learned in U.S. History. I wasn't just exposed to new content and new perspectives in upper-division history classes. It was also the first time I had to learn about a historical event or topic through investigating sources on that topic, rather than just reading about "what happened" in a book. I had to make valid arguments and support my

claims by citing evidence from primary documents and secondary sources. It was the first time that I had to do the work of a historian by investigating available historical evidence, and not simply remember the correct answer from a lecture or book.

It wasn't until my graduate work in social studies education that I stopped to think about how greatly these two approaches differed. In my last years as a history student, I had to learn how to research, think critically, and support claims from the evidence available. I believe I was able to have a deeper understanding of the content by learning history through investigation. I also practiced critical thinking skills that I was able use in other subjects, and in day-to-day adult life. I was engaged in lectures, because I found them fascinating and had great teachers, but memorization of facts and terms did not help me much outside of the history class. At best, any memorization of facts that has stuck with me has helped me at bar trivia, games of Trivial Pursuit, and yelling answers at the television while watching Jeopardy. I never developed any higher order thinking skills by simply remembering what teachers and textbooks told me to repeat on a test. I did very well in K-12 history and was able to navigate the traditional history education approach. However, I believe it was my intrinsic interest in history that allowed me to remain engaged through the years of lectures and other direct instruction. But what of the students who did not have the same interest in history, and who were not interested in studying history in college? Was being forced to sit through tedious lectures and read boring books a total waste of time for them? And what of K-12 students today? Why should they be forced to memorize facts, dates, and figures when such can be easily Googled from their smartphone? With a healthy mix of cynicism, pragmatism, and sorrow, I am left to ask: of what use is traditional history instruction?

The dominant approach to history at the K-12 level has long been a transfer of information (in the form of key terms, dates, and names) from teacher to student. This

information is presented to the student as concrete fact via a fixed narrative arc. The traditional narrative of history has long appreciated acceptance in primary and secondary schools because it allows a coherent picture of the past, promotes cultural transmission of a shared heritage, and uses a breadth of information to cover great deal of content (Sipress & Voelker, 2009; VanSledright, 2010). However, this approach to history has recently faced critiques. One grievance with the traditional approach to history education is that the fixed narrative taught in school ignores the interpretive nature of the creation of historical knowledge (VanSledright, 2002, 2010; Wineburg, 1991b, 2001). What we know of history comes from what has been built, negotiated, and debated through investigation of historical evidence and interpretations thereof. As such, historical knowledge is not concrete, and is at best, an educated guess of what happened in the past. However, the traditional K-12 textbook rarely acknowledges interpretive work done by historians and publishers to create curriculum texts, and the politics, debate, refinement involved with the creation of the dominant narrative is largely ignored (Wineburg, 1991a).

Criticisms also target the instructional practices associated with the traditional teaching of history. In recent years, there has been a shift to favor more constructivist approaches to teaching and learning. Instead of traditional knowledge transmission from teacher to student, the constructivist notion of education focuses on the construction of knowledge within the learner. Constructivism also takes into account the unique lived experiences of every learner and the impact that has on learners' perceptions, thus allowing for different interpretations of what is learned. History education scholars have noted the problems with the rigid transmission model of history education and its inability to appeal to constructivist notions of learning (Levstik & Barton, 2011; Seixas, 1996; Sipress & Voelker, 2009; VanSledright, 2002; Wineburg, 1991a). These scholars have instead

favored the promotion of "historical thinking," an alternative approach in which students have an active role in building their historical knowledge.

Essential to the process of historical thinking is the analysis of primary sources. Primary sources include historical pictures, documents, recordings, and other artifacts that allow a first-hand insight into the time period being studied. In the past, access to primary sources was greatly limited to professional historians, archivists, and others in the field of historical research and preservation. Over the last couple of decades, advancements in technology have expanded access to primary sources beyond the privileged handful of professionals. Coupled with digitization efforts taken by archives and other historical institutions, the World Wide Web now provides access to countless historical artifacts to the public. K-12 students and teachers are now able to investigate history using the same resources used by professional historians. Free access to resources and the ability to freely investigate topics not confined within a preset curriculum has "democratized" (Bolick, 2006) historical research.

Technology, it seems, has provided the opportunity for social studies educators to promote historical thinking in K-12 schools. However, despite the seemingly endless collection of materials to choose from online, historical thinking continues to find merely a supporting role in the textbook and lecture dominated arena of K-12 social studies. A variety of research has suggested that although access to online primary sources has become more widespread, access alone does not ensure use of historical thinking methods in the classroom (Friedman, 2006; Lee & Clarke, 2003; VanFossen & Waterson, 2008).

What do we know about teachers' use of Online Primary Sources?

The use of online primary resources (OPS) has been a large focus for research on technology use in the social studies. The topic itself is a heavily investigated one, however,

there is still much to learn about teachers' use of OPS. Large survey studies have provided us with insight into widespread teacher use. Early survey studies found that teachers' reluctance to use the Internet in the classroom and difficulty with using technology prevented use of OPS in their class (Hicks, Doolittle, & Lee, 2004; Lee, Doolittle, & Hicks, 2006; VanFossen, 1999). Growing familiarity with the Internet and computers seems to have increased, as teachers have reported a preference for finding resources on the Internet over a printed copy (Swan & Hicks, 2007; VanFossen & Waterson, 2008). However, online primary sources are rarely used in a way that promotes constructivist learning. It has been suggested that the predominant ways in which teachers use the Internet strengthens entrenched traditional directed instructional practices often associated with history education (DeWitt, 2004; VanFossen, 1999; VanFossen & Waterson, 2008).

Focused qualitative case studies have provided greater detail of teachers experience when using primary sources in the classroom (Doppen, 2007; Friedman, 2006; Swan & Hofer, 2008). Findings have suggested common barriers faced by teachers who attempt to incorporate primary sources. These include the external barriers of lack of time, pressure to teach to standards, and inadequate technology. As with larger quantitative studies, the more recent qualitative studies suggest that technology access and familiarity has become less of a barrier to teachers over time, but pedagogical choices made by teachers still favor OPS use as a supplement to direct instruction rather than for historical thinking.

Some studies have investigated teachers properly using OPS for historical thinking, but these studies are often limited to an investigation of the implementation of a single resource (i.e. a specific website) (Lee & Clarke, 2003; Saye & Brush, 2007; Tally & Goldenberg, 2005). These studies have highlighted the potential of online primary source collection to support historical thinking. However, the contrived situation of researchers

investigating the success of a specific fails to capture a realistic experience of teacher use and the choices they make when teaching with online primary sources.

Literature on the subject has helped us better understand teachers' use of OPS. We know, for example, that that teachers' choice to use OPS and how they use them is largely determined by their existing pedagogical practice (Hicks et al., 2004; VanFossen, 1999; VanFossen & Waterson, 2008). We also know that troubleshooting and inexperience with technology no longer seem to hinder teachers' incorporation of OPS, but barriers still exist to the promotion of historical thinking (DeWitt, 2004; Doppen, 2007; Friedman, 2006; Swan & Hicks, 2007; VanFossen & Waterson, 2008).

There is much more to be learned about teacher preferences for features of OPS websites, and how they are actually used by teachers. Lee and Clarke (2003) mention the need for instructional designers to work with in order to create online resources that best support student learning. In order to investigate how Internet use might "play out in real (social studies) classroom settings," Swan and Hoffer (2008) have also noted a need for research that aligns with the "opportunities and restraints of the classroom."

Research questions and justification of study

This study builds on the existing body of research regarding social studies teachers' use of OPS to promote historical thinking. In order to help address the calls of Lee and Clarke (2003) and Swan and Hoffer (2008) and others (Friedman & VanFossen, 2010; Hicks & Friedman, 2006) for investigation into practicing teachers' use of the Internet in their teaching, I am proposing a study to investigate the experience of teachers who use online primary source websites and related web tools. The following research question is asked to guide investigation:

How do participating teachers use online primary sources and related tools in their instruction to promote historical thinking?

To help focus the study the following sub-questions are being asked:

1. What specific tools/resources do teachers use and what elements of those tools do they find useful?
2. How do external factors influence the use of OPS?
3. How do internal factors (characteristics of the teacher) influence successful use of OPS?

In order to address the research questions, I conducted a basic qualitative study of 4 in-service teacher participants. The two major data sources included: audio recorded and transcribed interviews with all participants and field notes from classroom observation. Supporting documents were also collected and analyzed, including lesson plans, student worksheets, and other materials used by teachers. Additional data sources including survey questions and email conversations with participants supplemented the main data sources.

SIGNIFICANCE OF THE STUDY

This study differs from other studies on the topic in that it investigated the practices of in-service teachers who have been identified as users of OPS to support historical thinking. Other studies of in-service teachers have not necessarily focused on the success of teachers to promote historical thinking, but rather the barriers they face, or the failure of teachers to correctly do so. This study starts with successful users of OPS in the classroom. The teachers of this study will likely have faced barriers to incorporation, and I am interested in learning from their experiences and preferences to investigate what has allowed them to overcome those barriers. In short, this study focuses on what makes them successful rather than on what has deterred them.

This study also investigates participating teachers' preferences for use of OPS websites and related web tools, and examines the designs and features of those resources. Studies on the design of OPS website lack evidence derived from teacher input. The work of Lee and Clarke (2003) and Saye and Brush (2007) do offer some user investigation, however, these studies are limited to the investigation of a single website, ignoring the individual decisions teachers make when choosing and implementing a tool. Without investigating teacher practices and the decisions they make, instructional designers are at a disadvantage in that they can only make assumptions about teacher practices when designing tools for them.

Positionality of the primary investigator

In qualitative studies, the researcher is the primary instrument for collecting and interpreting data. It is the researcher who decides what questions to ask, what to observe, and what to write down. Merriam (2009) notes that the researcher is an ideal instrument for collecting and analyzing qualitative data because the researcher can

> …expand upon his or her understanding though nonverbal as well as verbal communication, process data immediately, clarify and summarize material, check with respondents for accuracy of interpretation, and explore unusual or unanticipated responses (p. 15).

However, Merriam also notes that the human instrument has shortcomings and biases that may impact the study. Instead of attempting to eliminate these potential sources of bias, qualitative researchers identify and monitor their own subjectivities. Because of this, "qualitative research texts recognize the importance of the researchers' reflecting on their own values and assumptions" throughout a study (Mertens, 2005). This is done through reflexivity of the researcher: both personal and epistemological. Through personal reflexivity, the researcher reflects upon the ways that their own values, experiences,

interests and beliefs have shaped the research. Epistemological reflexivity refers to the reflections on the assumptions made about knowledge and the world while conducting the research (Willig, 2001). My background relating to the topic of inquiry, together with my epistemological stance, influence my positionality as a researcher; it is therefore important that I discuss that here.

RESEARCHER BACKGROUND

I have experiences as a history scholar, an education scholar, a K-12 educator, and instructional designer. This background poses potential biases towards data collection and analysis. First, I am aware of the previous research on historical thinking and the use of OPS by teachers. While an understanding of this literature helps structure and guide inquiry, it poses the threat of bias against collection or interpretation of contradictory data. Second, as scholar of history, I have developed my own interpretations and understanding of history. Likewise, as an educator and educational researcher, I have developed my own pedagogical approaches to teaching history. This is potentially helpful for relating to my participants, whose experiences may overlap some of my own. However, my understanding of history and my pedagogical preferences for teaching may lead me to compare their practices to my own. This creates the potential to place my own judgment onto the practices of teachers.

I intend to limit the effects of these biases in several ways. First, by being aware of and acknowledging my potential biases, I strived to be open to collecting data that may challenge or counter my beliefs. Second, measures were taken to enhance credibility of data collection and analysis. These measures included data triangulation and member checks, and are further outlined in Chapter 3.

RESEARCHER EPISTEMOLOGY

An epistemology is the "philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate" (Maynard, 1994). According to Crotty (1998), this theory of knowledge is "embedded in the theoretical perspective and therefore the methodology" of a social research study (p. 8). Crotty also explains that one's ontological stance (understanding of reality) is represented in their epistemological stance (understanding of knowledge). Ontology, epistemology, and methodology, then, are intertwined within a philosophical approach to a study. Guba and Lincoln (1994) refer to this philosophy underlying a researchers' approach as a "paradigm." The research paradigm influences not only every aspect of conducting the study (i.e. research questions, data collection, data analysis), but also what types of knowledge the researcher claims are obtainable by those who read their report. Therefore, it is important to identify and explain the research paradigm on which I am grounding this study.

I am approaching this study from an interpretivist grounding. Where Crotty (1998) considers interpretivism a theoretical perspective within the epistemology of constructionism, Merriam (2009) considers interpretivism to be an epistemological perspective in and of itself. The inconsistency of definition is not surprising. Crotty notes that the epistemological categories he lays out in The Foundations of Social Research are "not to be seen as watertight containers" (p. 9) and Merriam explains that, "in true qualitative fashion, each writer makes sense of the underlying philosophical influences in his or her own way" (p. 8). These, and other authors (Glesne, 1999; Mertens, 2005) agree that interpretivism is what underpins most qualitative research. In each discussion of the term (either Merriam's "epistemological perspective" or Crotty's "theoretical perspective"), interpretivism is explained as a contradistinction to positivism. The

positivist paradigm characterizes the world as made up of observable, measurable facts. Ontologically, positivists assume a "fixed measurable reality (that) exists external to people (Glesne, 1999). This differs from the interpretivist paradigm, which assumes that reality is constructed based on individual interpretation. Interpretivism aligns with a constructionist epistemology, that asserts meaning

> …is not discovered, but constructed. Meaning does not inhere in the object; merely waiting for someone to come upon it…Meanings are constructed by human beings as they engage in the world they are interpreting (Crotty, 1998).

The goal of interpretive qualitative studies, then, is not to uncover an objective truth, nor is it to prove or disprove a hypothesis. Instead, the purpose of qualitative research is to understand and make sense of phenomena from participants' perspectives (Denzin & Lincoln, 2005; Merriam, 2009). The purpose of the current study, which is aligned with the interpretivist paradigm, is to understand and make sense of the phenomena of successful use of online primary sources to encourage historical thinking from the perspectives of the participating social studies teachers.

CHAPTER 2: REVIEW OF LITERATURE

This study investigates how Internet tools and resources are being used to promote historical thinking. Because this study is contextually placed in history education, and investigates a specific type of history instructions, it is important to explain how traditional history instruction differs from historical thinking approaches. Working under the assumption that the Internet can support historical thinking, it is also necessary to understand evidence of Internet use in history and its impact. To understand the impact of the Internet on history education, it is necessary to understand how Internet has been used and how successful it has been. This chapter provides literature pertaining to the convergence of historical thinking and the use of the Internet in the K-12 classroom. First, I will discuss the traditional approach to history education and contrast it to constructivist approach. Next, I will discuss the concept of historical thinking and how the internet has been thought to potentially enhance historical thinking. I will then discuss general concepts associated with investigating technology use by teachers. Then, I will discuss investigations into teachers' use of online primary sources and the evidence of successful incorporation and barriers faced. Finally, I will provide a framework for investigating the use of online primary sources in the history classroom.

Traditional approach to K-12 history

History education has largely become a focus on an objective understanding of history, one in which there are clear truths of history, and it is the purpose of history education to teach students these truths. This approach may be flawed because, as many historians (Carr, 1961; Holt, 1990; Novick, 1998) suggest, historical fact is actually a human construction, built by subjective interpretation of evidence. It is not that historic "facts" are without value (Grant, 2003), but as Spoehr and Spoehr (1994) note, a "single

set of facts is open to a variety of interpretation" (p. 72). Interpretations are inherently biased, and as such, it is difficult to justify a totally positivist understanding of history. History is essentially a set of educated assumptions based on interpretation of accounts, records, photographs, and other primary sources. Historians do not begin their thinking, as Peter Seixas (1996) in "discrete facts, but in the accounts of other historians" (p.769). Professional historians, therefore, do not accept history as absolute and unchangeable fact, but rather as an ongoing debate based on the interpretation of evidence. According to Sipress and Voelker (2009):

> The scholarly life of the historian is defined by participation in a contested academic discourse in which rival truth claims are subjected to scrutiny on the basis of evidence drawn from the human past. (p. 19)

However, the history that is taught in primary and secondary school is often presented as a fixed chronological narrative. This approach lacks the encouragement of interpretation and research—the "habits of mind" required of historians (Schulman, 2005; Sipress & Voelker, 2009). K-12 history is simplified within a concrete story: one with a beginning, middle, end, characters and setting, and conflict and resolution. As with all stories, the historical narratives have an author: someone who decides what goes in the story, what is left out, and what we should learn from that story (Levstik & Barton, 2011) As a result, the subject of history is viewed as fixed, pre-packaged, and inert (Foster & Padgett, 1999). The story told in United States K-12 history is what VanSledright (2010) calls the "freedom-quest narrative," a story of consistent hard work and progress toward the ultimate goal of freedom. This reductionist story of how we came to be is characterized by an over-simplification of historical facts, which favors simple dichotomy when discussing conflict (e.g. us vs. them, North vs. South, etc.), and tends to support the heroic mythos of key characters of history. Negative historical accounts that conflict with the

overall positive portrayal of actors and actions of the past are either "whitewashed" or removed completely from this narrative arc (Loewen, 1995). This story of our past is not only transmitted by teacher and curriculum, but also supported by collective memory, in media, and at historical museums. When reduced to a simple repetitive story, history education seems to better serve the purpose of transmission of heritage, rather than engaging students in actual historical research (VanSledright, 2010).

It is not my purpose to condemn simplification done in history education. There are practical reasons that educators have largely adopted the coverage model in survey courses of history. The lecture-based summarized approach to history allows a great deal of content to be covered in a relatively short time, which is ideal for the typical survey history course (Sipress & Voelker, 2009). Additionally, it is impossible to ever obtain a full knowledge of history (Levstik & Barton, 2011; VanSledright, 2010) no matter what is taught in a history class or how that content is taught, students will always be presented with an incomplete picture of history. I also do not mean to criticize heritage transmission through United States History. Instead, my aim is to suggest that what is taught in K-12 is a history that has been shaped and negotiated through interpretive lenses. Indeed, all of what we learn of history is the 'result of a furious debate informed by evidence and reason" (Loewen, 1995). However, while historians acknowledge the interpretive and changing nature of historical knowledge, K-12 textbooks and instruction rarely indicate that interpretation had anything to do with the version of history that is being taught (Wineburg, 1991b). The problem, therefore, is not the over-simplification of history, nor is it the version of history to which students are exposed. Rather, the problem lies in the portrayal of history as certain and absolute, while the role of interpretation needed to create what is taught in history remains largely ignored (Wineburg, 1991b, 2001).

An alternative approach to history

It should be noted that at higher levels of history education, historical knowledge is not merely transmitted as absolute facts through fixed narrative. Instead, professionals are trained to engage in historical inquiry to gain a deeper understanding of the subjects they study. History knowledge is flexible in nature, and consistently evaluated and reevaluated, and conclusions are derived and supported with evidence. Unfortunately, this pedagogical approach has been limited to graduate and professional levels of history education (Cohen, 2005; Kornblith & Lasser, 2001; Sipress & Voelker, 2009).

History education scholars have long advocated learning of K-12 history through active investigation in a way similar to the practices of professional historians. These scholars have offered theories on the practice and purpose of learning history that extends beyond simply learning the story of history. To Wineberg (1991a), "historical problem solving" is a way to teach history from a cognitive science approach, similar to scientific inquiry in other domains, such as math and natural science. For Levstik & Barton (2011), history education is more than memorization of facts, but an opportunity to improve democratic participation. Perfetti, Britt, and Georgi (1995) note that to practice historical literacy, the learner must not only know the story, but how to interpret and engage with the story as well. To others, (Holt, 1990; Korbin, 1996), actively investigating historical documents allows for promotion of higher order thinking skills and an understanding of history beyond what could be achieved through textbook-based instruction. These and other scholars would agree that history is not merely a collection of facts to be learned. Learning history is best done in the same fashion as professional historians learn: through investigation, critique, and interpretation. In other words, it is better to "think historically," than to learn history through rote memorization of facts.

Historical thinking involves a "doing" of history (Levstik & Barton, 2011), one in which students are actively constructing their understanding of history. The learners of the traditional history class acquire absolute facts from the teacher, textbook, or some other medium. The "doing of history" is more flexible, relative to the learners' interpretation and experiences. This approach aligns with the notions of constructivism.

CONSTRUCTIVISM IN HISTORY

Constructivism is not unique to history education, but a broader theory of learning that suggests knowledge is constructed within the learner. Although difficult to pinpoint a point of paradigm shift, educational theory has evolved over the 20th Century to embrace constructivism in preference to behaviorist notions of learning based solely on observable behaviors. Constructivism has its roots in the works of John Dewey's concept of experiential learning developed in the early 20th Century. Dewey (1933) asserted that the most effective way to learn is through experience. In other words, occurs when learners are engaged in activity that is meaningful to them. Additionally, Dewey laid the groundwork for the social nature of learning, or, learning is done through interaction within a specific context.

Jean Piaget (1999) further built upon the notions of experiential learning. Piaget's theory of learning focused on the cognition of children, which he considered to develop through both biological maturation and environmental experience. He asserted that children not only construct their understanding of the world through experience, but also build upon knowledge they have created through previous experiences. This is done through the development of schema, or internalized models of the world surrounding the learner. When the learner is faced with something that adds to or contradicts their previously developed schema, the learner faces disequilibrium, and has to adjust their

schema through a process Piaget refers to as "assimilation." It is through this process that people learn.

The work of Lev Vygotsky (1978) also heavily influenced notions of constructivism. Vygotsky, following the assertion that knowledge is built upon experience through interaction with one's environment, developed the concept of the Zone of Proximal Development (ZPD), the space in which learning takes place. The ZPD refers to the gap between what it known by the learner and tasks or knowledge just out of reach of the learner's ability. Vygotsky is also credited with further developing the social foundations of learning by suggesting that learning takes place through interactions with others, and is influenced by culture and language. Teachers and peers are important to the concept of ZPD, as it is often others who pose the tasks just out of reach of the learners' ability. It is also teachers and peers who help scaffold that learner's progress through the ZPD.

If experience is the major contributor to what people learn, different experiences will contribute to a variety of understandings. What's more: different interpretations of the same experience will also result in a variety of understandings of reality. Therefore, constructivism challenges the assertion of a single attainable reality. Later contributions to the development of constructivism (von Glaserfeld, 1998) entirely dismiss the existence of a correct reality. Instead, radical constructivism posits that the concept of what we call "knowledge" is simply a representation we have to make sense of our lived experiences. As such, reality only actually exists within each individual and is therefore unique to that individual.

These three approaches to constructivism place emphasis on different elements of the notion of constructivism. Cognitivist constructivism suggests that an individual develops their understanding of the world around them by constantly adding to and modifying their prior knowledge. Social constructivism builds on these notions, but also

notes the importance of social interactions, culture, and language in the construction of knowledge. Radical constructivism takes the position that reality only exists from the subjective understanding of the individual learner. While these stances differ, there are general tenets to assertions associated with the constructivism. Based on the work of Garrison (1998), Gergen (1995), and von Glaserfield (1998), Dolittile and Hicks (2003) organized the following philosophical tenets of constructivism: (1) Knowledge is not passively accumulated, but rather, is the result of active cognizing by the individual. (2) Cognition is an adaptive process that functions to make an individual's cognition and behavior more viable given a particular environment or goal. (3) Cognition organizes and makes sense of one's experience, and is not a process to render an accurate representation of an external reality. (4) Knowing has its roots in both biological/neurological construction and in social, cultural, and language-based interactions.

The coverage approach to history and its associated pedagogical practices fail to align with these constructivist tenets. The traditional approach often utilizes the transmission of knowledge through direct instruction, and largely ignores the active nature of the learner. Assessment within the traditional approach to history is concerned with the reproduction by the students of the information they are given (Levstik & Barton, 2011). A recitation of a predetermined fact by a student might result in a correct answer, but does not allow for the flexibility of interpretation consistent with constructivist learning. As the background experience and knowledge of the learner is ignored, history is often disconnected from students' lives and does not provide opportunities for authentic connection to the content.

HISTORICAL THINKING

Congruent with the notions of constructivism, historical thinking is an approach to teaching and learning history that contrasts itself to a teacher-centric and textbook-focused curriculum that emphasizes a behaviorist practice of rote memorization facts involved in the fixed narrative of history. Historical thinking refers to an active approach to learning history by "doing" the work of historians. This involves investigating primary sources and constructing an understanding of history based on evidence. VanSledright (2004) defined historical thinking in terms of four cognitive acts students must exhibit when thinking historically. These include identification, attribution, perspective judgment, and reliability.

Following the constructivist paradigm that asserts that students learn best through disciplined inquiry, historical thinking requires students to engage in historical inquiry and build historical knowledge by investigating primary sources to answer (as well as ask) questions rather than be given the answer via fact memorization. In this approach, students must develop and use skills to construct an understanding of history based on evidence collected through the evaluation of primary source documents. As students work to construct their own understanding through evaluation of evidence, the product of historical thinking is not a predetermined truth, but rather a negotiated meaning from multiple perspectives.

A number of scholars have investigated the implications for this approach and explain that this type of learning exposes students to a number of benefits. For example, Peter Seixas (1993; 1996) notes the epistemological benefits of exposing students to historical inquiry. Historical epistemology refers to the "students' ability to refine, revise, and add" to their picture of history "either through new evidence or through reliance on historical authorities" (Seixas, 1993). When studying history through investigation, students become familiar with the processes taken by historians to interpret history. This

allows students to see that history is not as positivistic as textbooks portray it, and students may start to see that the narrative of history is one that is constructed. As such, students are able to gain a better understanding of how we "know" history.

Adding Complexity to the Narrative

Another benefit of historical thinking is that it requires students to negotiate meaning from multiple, and sometimes conflicting, accounts of history. This exposes students to multiple perspectives that may go unheard in the authoritative voice of traditional curriculum. Additionally, by being given personal accounts of history, students may see that history is made of more than the accomplishments by a handful of important people (Aldridge, 2006; Lowen, 2007): a notion involved in traditional history curriculum that tends to emphasize the actions of singular agents (Levstik & Barton, 2011). The master narrative of traditional history textbooks is largely framed in the terms of actions of key figures (For example, the Civil Rights Movement in the United States being limited to figures such as Martin Luther King, Jr., Rosa Parks, and Cesar Chavez). A more informed interpretation would be based upon the recognition that, although these figures were important, they were part of a broader and more complicated social context. By adding real perspectives from everyday people, there is added complexity to the freedom-quest nation-building narrative arc of history curriculum.

Learning History in Context

Scholars (Blake, 1998; Foster & Yeager, 1998; P. Lee & Ashby, 2001; Seixas, 1993; Yeager & Davis, 1996) have also noted the potential to practice historical empathy through historical thinking. Historical empathy according to Barton and Letsvik (in Brooks, 2008), refers to a process of understanding people in the past by contextualizing their

actions. By learning to think contextually, students start to understand historical events through a lens contemporary to those events. Although completely understanding the reasons people of the past acted is an unachievable task (Foster, 1999; VanSledright, 2010), striving for empathy helps increase awareness of one's perspectives and positionality when investigating the past (Blake, 1998; VanSledright, 2002). Because historical interpretation can never be value-neutral or objective, students must reflect upon their own beliefs and values to form conclusions based on historical evidence (Foster & Padgett, 1999; Holt, 1990).

Critical Thinking Skills

Skills fostered by historical thinking are important beyond the history classroom. Students are required to critique and analyze documents and other sources instead of taking information as a collection of hard facts. When thinking historically, students must understand the context in which a document was set, and they are required to identify (implicit or explicit) biases within the artifacts. Students must conduct research and make rational claims based on evidence they have encountered through historical inquiry. Critiquing sources, citing bias, and justifying claims are some of the skills fostered by historical thinking that are used in a variety of fields. Perhaps more importantly, the skills fostered through historical thinking are the same skills students will have to use to make informed decisions as citizens. Media is more pervasive than ever, and people are exposed to an exceeding amount of information of varying credibility. We would hope that our former students have had practice with analytical and critical skills when exposed to such media. We want students to understand that information is biased, and it is important to think critically when analyzing media or hearing a politician talk. Historical thinking skills can help students think critically when applied to the media to which they are exposed. For

example, John Lee (2006) investigated pre-service teachers' construction of lessons using "digital civic resources," such as political blogs and websites. Many of the participants' proposed ideas involved student analysis of these resources in terms of perspective and bias- much in the way primary source documents are analyzed when learning through historical thinking.

Developing Students' Historical Thinking

Historical thinking connects and engages students to give them a deeper understanding of history, perhaps helping them connect to a shared sense of how we came to be. Additionally, historical thinking promotes the skills students will need to make informed decisions as citizens. It is important to note that historical thinking skills do not come naturally —as Sam Wineburg (2001) says- and must be developed within students. Historical thinking requires a much more advanced cognitive ability than does the memorization of historical facts, and such cognitive tasks might seem more appropriate for older students and adults. However, while many studies have focused on senior high school students' use of historical thinking skills, scholars (e.g. (Levstik & Barton, 2011; VanSledright, 2002) have demonstrated the ability of students in elementary and middle grades to perform historical thinking tasks. Furthermore, Ilene and Michael Berson (2013) have done work with early childhood instruction to promote historical thinking in children as young as Pre-Kindergarten.

INTERNET IN THE SOCIAL STUDIES CLASSROOM

What we know as the World Wide Web began in the early 90s, and by the mid-90s scholars speculated on its impact on K-12 education. As early as 1995 (Wilson & Marsh, 1995), it was suggested that the Internet would surely revolutionize K-12 education. In

1997, Peter Martorella famously suggested the technology was a "sleeping giant" in social studies: while the Internet had not yet made a substantial impact, it was certainly poised to do so (Martorella, 1997). With the promise of virtual encounters that would extend beyond the brick and mortar classroom, as well as speedy global connections and access to content knowledge, documents, and news from everywhere in the world, there were high expectations of the impact of the Internet on social studies. Beyond access to content, it was also assumed that the Internet would provide for student-conducted research in the social studies (Braun, Fernlund, & White, 1998). Scholars in the field of social studies education continued to endorse the potential of the Internet and technology in the classroom to make social studies a more active subject, enabling a shift from positivistic teaching to constructivist learning (Crocco, 2001; Doolittle & Hicks, 2003).

Early speculation set a high bar for the use of the Internet in social studies. However, while theorists clamored for the use of the Internet in the K-12 history class, the reality of computer and Internet use in schools remained minimal (Cuban, Kirkpatrick, & Peck, 2001). As with other subjects, the social studies seemed largely unaffected by the introduction of the Internet in the classroom. Social studies teachers seemingly didn't share the same enthusiasm for using the Internet as did the advocates in academia. Therefore, most early literature on the Internet in social studies were written to encourage practitioners to use the Internet as a valuable resource for teaching history. In an analysis of NCSS paper presentations between 1995 and 2002, VanFossen and Shively (2003) found that the vast majority of papers were "how-to" pieces that described a web-based resource or tool that was created for social studies teachers. Berson and Whitworth (2002) analyzed 325 articles published between 1996 and 2001 on the subject of technology in the social studies. They also noted a large number of how-to articles and presentations. However, the majority of the literature reviewed were articles that simply described either digitized collections of

materials or Internet resources that also included lessons related to those materials. The two analyses of early literature on the topic of Internet use in the social studies showed an attempt to convince practitioners of the usefulness of the Web. This type of literature was aimed at influencing practices in the classroom, informing teachers and teacher educators about access to valuable content and the potential for new teaching and learning methods. However, the lack of empirical studies published highlighted the need to actually investigate the Internet's potential impact in the social studies classroom.

Online primary sources to promote historical thinking

Internet use started to become mainstream in the early 2000s. As familiarity with the Internet grew, and access became more abundant, so did empirical research into the use of the Internet in the social studies. The interest in the Web's potential to promote historical thinking became a focus of this research, as the majority of research on technology use in the social studies increasingly focused on the use of online primary resources (OPS) in history (Swan & Hofer, 2008).

Results of research on teachers' use of primary source documents, while not entirely negative, certainly showed shortcomings related to the expectations laid out in previous years. Hicks, Doolittle, and Lee (2004) conducted a survey of 158 in-service teachers, who were also members of the National Council for the Social Studies (NCSS). Participants were asked to evaluate their own use of primary sources (both digital and non-digital) in the classroom. The study found that, although teachers reported using primary sources, they rarely used them in a way that promoted student inquiry and historical thinking. Instead, primary sources were used as a supplement to enhance existing curriculum. In addition, Hicks, et al. found that teachers tended to prefer classroom-based primary sources as opposed to online collections. While teachers reported an appreciation

of the accessibility to primary sources from the Internet, they reported needing significantly more time to prepare lessons around them. Two years later, these researchers (Lee, Doolittle, & Hicks, 2006) found similar outcomes through surveying 104 high school social studies teachers about their use of OPS. Teachers noted the barriers of using OPS, such as time restraints, pressure to teach to standardized tests, and lack of awareness of online resources. The majority of the respondents (66%) either disagreed or strongly disagreed with the survey item asking if online primary resources were more valuable than non-digital sources. In a similar study, VanFossen (1999) also surveyed teacher's use of the Internet and found that their participants faced barriers including lack of training with resources, technology issues, and reluctance to use the Internet for fear of inappropriate searches by students. Teachers who did report actively using the Internet in their classroom, rarely used it in a way that encouraged student inquiry. Instead, they used the Internet for "glorified information gathering."

Participant studies were also used to determine the use of online primary sources in the classroom. These studies provided a more focused investigation through observations, interviews, and analysis of teacher and student work. Some of these studies found evidence of the positive impact the Internet brought to history education. For example, Tally and Goldenberg (2005) investigated the success of an online primary source activity in seven classrooms. Each of the classroom teachers in the study had been trained in teaching with primary sources and technology. Through observations and student interviews, Tally and Goldenberg found both cognitive and affective benefits of teaching through online primary sources. When presented with primary source images, students demonstrated historical thinking skills, such as drawing inferences, corroborating, and citing reference. Students reported using technology to learn differently, gaining a deeper understanding of history, and learning independently as well as in groups. The majority of students reported learning

more in their current class than they had in previous history classes, and almost three-quarters also admitted to liking history more as a result of their current class. Bolick (2006) investigated teachers' perceptions of digital archives. From this study, she made three assertions about digital archives. First, digital archives allowed teachers to conduct historical inquiry in a way that had not been possible before the existence of such technology. Second, digital archives granted access to documents that were once difficult to access. And finally, digital archives afforded the ability (as previous scholars predicted) to transform history education from textbook centered instruction to student-focused inquiry. Bolick's findings helped justify claims that the Internet (specifically, digital archives) potentially democratizes historical research. Digital archives gives a much larger audience access to documents and artifacts, once reserved for archivists and professional historians (Ayers, 1999). Additionally, the hypertext nature of digital archives allows a teachers and students freedom to explore paths of research beyond the limits of traditional history curriculum.

Friedman (2006) further investigated factors influencing teachers' use of primary sources in the classroom. Through teacher interviews and classroom observation, Friedman found that technological-pedagogical training, either through professional development or teacher training, positively influenced preservice teachers' ability to teach using historical inquiry supported by technology. However, common barriers became apparent during teachers' in-service work. The participants of the study cited insufficient time, pressure to teach to standards, and lack of access to necessary equipment as factors deterring the use of online primary sources in the classroom. Hofer and Swan (2006) also found that time and pressures to teach to standards were major obstacle faced by teachers through their case study of a fifth grade history teacher. In addition, Hoffer and Swan also found that troubleshooting technical problems, such as internet speed and software and hardware

problems, impeded their participant's ability to implement his digital primary source based lesson.

Lee and Clarke (2003) investigated the use of several online collections by an 11th Grade class to investigate the Cuban missile crisis. They found that while the collections provided potential for historical inquiry, presenting online primary resources without pedagogical supports would not necessarily encourage students to think historically. Say and Brush (Saye & Brush, 2007) conducted a nine-year study on the instructional design and use of an online learning environment called Decision Point focused on the Civil Rights Movement in the United States. Aware of the need for pedagogical supports (Lee & Clarke, 2003), the designers of Decision Point placed embedded technologic (such as descriptions of primary sources, timelines, and student tools for note taking and organizing their work) within the learning environment. Researchers found that the environment was able to provide hard scaffolding for students via the pedagogical supports. However, it was determined that it was also necessary for the teacher to provide soft scaffolding through just-in-time assistance and facilitation to encourage historical thinking in students. More recently, (Greene, Bolick, & Robertson, 2010) investigated students' learning while using a hypermedia learning environment (HLE) subsection of the Documenting the American South project. The findings suggested that the HLE helped foster historical thinking skills, but students' proficiency with self-regulated learning was a strong indicator of student improvement as indicated by a pre- and posttest measure.

Swan and Hicks (2007) found mixed results of teachers' success with incorporating online primary resources. In their study, they observed and interviewed three secondary social studies teachers who had attended a semester-long training focused on using online primary sources for instruction. Each of the teachers in this study preferred retrieving primary sources online, as it was much easier to find a source through a database or Google

than to find a hard copy, and the teachers reported using online primary sources in a majority of their lessons. However, only one of the teachers used the Internet to facilitate student-centered inquiry-based learning. The other teachers, who considered themselves lecturers, used the primary sources to enhance their current teacher-focused practices. DeWitt (2004) noted a similar trend in a comparative case study of four history teachers. Through observation and analysis of communications from the teachers, DeWitt deduced that the teachers in his study did actively use technology to enhance their instruction. However, teachers were using technology to enhance traditional practices, primarily teacher-centered lecture.

Pedagogical knowledge and practice has also been shown to influence preservice teachers' ability to promote historical thinking. Doppen (2007) conducted case studies of five preservice teachers, and found that student teachers' understanding of historical thinking was limited to understanding of history within context, without mention of inquiry or student construction of knowledge. In his dissertation research, Liaw (2010) found that preservice teachers' misunderstood constructivism as merely providing scaffolding or introduction of different perspectives. Because of this, participants in the study were unable to promote historical thinking, and tended to use online primary sources to supplement text-based instruction. Also working with preservice teachers, Salinas, Bellows, and Liaw (2011) found that the extent to which digitized primary sources could support teaching through historical thinking depended on that teacher's own content and pedagogical understandings of history and historical thinking. They concluded that:

> The greater the working knowledge of historical thinking a teacher has, the greater the contribution of any collection of digitized archives. Even when teachers have well-grounded understandings of historical thinking, they may still gravitate toward particular elements of historical thinking…Regardless, understandings of how digitized primary source websites are valued in the use of

> historical thinking are dependent upon a teacher's understandings of the related formal educational scholarship. (p. 199)

The importance placed on pedagogical content knowledge in determining a teachers' ability (or lack of ability) to promote historical thinking through primary sources (online or otherwise) echoes the assertion of Lee and Clarke (2003) and others (Greene et al., 2010; Saye & Brush, 2007) that exposure to digital archives—even websites that are thematically organized for teacher use-- will not guarantee promotion of historical thinking.

Evidence of the Internet's positive impact on history education

Historian Ed Ayers (Ayers, 1999) suggested that history was perhaps the most suited field for digital technology, which provided expanded opportunities for research and dissemination of knowledge. As noted previously, early advocates set expectations very high for the potential of the Internet to change social studies education. Multiple studies have investigated the use of the Internet in history classrooms and some have found evidence to support claims that the Web is able to bring transformation to the social studies. There is evidence that the Internet allows teachers greater access to resources to use in the social studies classroom (Swan & Hicks, 2007; VanFossen & Waterson, 2008). Access to archives and the ability to navigate them affords the potential for democratized access to history research not available before the Internet (Bolick, 2006). The use of online digital sources potentially supports higher order thinking skills and critical analysis in history. Additionally, Web resources can help support historical empathy in students, and scaffold a more complex epistemology of history (Greene et al., 2010; Saye & Brush, 2007; Swan & Hicks, 2007). Research has also noted additional potential benefits of using the Internet in history including student engagement in learning and enjoyment of history (Lee & Clarke, 2003; Saye & Brush, 2007; Tally & Goldenberg). Evidence exists suggesting the

ability of the Internet to promote historical thinking, however the widespread adoption of such practices remains to be seen (Hicks et al., 2004; VanFossen, 1999; VanFossen & Waterson, 2008).

Barriers to incorporation of the Internet in social studies

Unfortunately, it seems that research on the incorporation of technology into the social studies has provided us with a better understanding of the barriers to its use rather than an understanding of the conditions for successful use. One such commonly cited barrier is time. Instruction that promotes historical thinking is more involved than direct instruction and requires more time on the part of the teacher to prepare and takes more time for the students to become engaged. It is not surprising then, that time has also been noted as a barrier to the successful incorporation of Internet sources to promote historical thinking (Friedman, 2006; Hicks et al., 2004; Hofer & Swan, 2006; J. Lee et al., 2006). Additionally, teachers noted pressure to teach to standards as a barrier to incorporating online primary sources (Friedman, 2006; Hofer & Swan, 2006). Curriculum pressures to cover large amounts of content within a short amount of time still exist. While history standards have evolved to focus more on critical analysis of sources, high stakes testing pressures to cover the required content continue to be a reality for teachers. If teachers are unable to cover the required content and/or connect standards to historical thinking exercises, it is unlikely that they will spend the required time to engage students in historical thinking.

Earlier studies noted that lack of access to reliable hardware and adequate Internet speed hindered teachers' ability to use the Internet for their instruction (Friedman, 2006; Hicks et al., 2004; Hofer & Swan, 2006; VanFossen, 1999). Technology problems of the past could have been related to teachers' low comfort level with using the relatively new

technology in the early years of the Internet, and general inadequacies of required infrastructure (access to computers and reliable Internet) within schools. As more recent studies emerged on use of the Internet by social studies, technology woes were no longer reported as major problems for teachers. Teachers reported preferring to use the Internet to find primary sources, (Swan & Hicks, 2007; VanFossen & Waterson, 2008), a change from earlier studies, that noted teacher preference for printed resources (Hicks et al., 2004; J. Lee et al., 2006). This is likely due to increased Internet access (as well as improved speeds of the Internet) within schools and increasing familiarity with the Internet and computer technologies. As speed, access, and reliability of access increases and, as available resources continue to increase through digitization efforts it is becoming less likely that teachers will cite technology problems as barriers to promoting historical thinking.

Improvements in technology and digitization efforts have improved access to primary sources. However, faster and greater access to OPS is not sufficient to promote historical thinking (Lee & Clarke, 2003; Saye & Brush, 2009). Pedagogical understandings held by teachers seem to be an important determining factor of teacher's successful use of online primary sources. Student teachers' underdeveloped notions of constructivist approaches (Liaw, 2010) and historical thinking (Doppen, 2007; Salinas et al., 2011) are exemplified in the ways in which they use primary sources. Pedagogical barriers to promotion of historical thinking do not only apply to beginning teachers, however. Contrary to hopes that the internet would foster constructivist pedagogies (Crocco, 2001; Doolittle & Hicks, 2003), access to online primary sources may help reinforce directed instructional practices and fixed-narrative of history by practicing K-12 educators (DeWitt, 2004; VanFossen, 1999; VanFossen & Waterson, 2008). These findings on the Internet's impact on history are summarized by the assertion by Hammond and Manfra (2009) on the state of technology use in the social studies:

> Classrooms have become populated with one or more computers, these computers have been wired to the Internet, and digital projectors have steadily become staple features of classroom equipment. Social studies teachers have already embraced some technologies—such as PowerPoint, WebQuests, and digital video—but teacher-centered, passive pedagogies remain the norm. (p. 172)

The "teacher-center, passive pedagogies" that remain dominant in social studies instruction inform the ways teachers choose to use the Internet and other technologies. This aligns with other research on teacher use of technology noting that teachers' philosophy about teaching with technology (Franklin 2007; Park & Ertmer, 2007/2008) and their pedagogical notions (Hughes, 2005) influence the extent to which they will incorporate the Internet into their teaching. While pedagogical training may initially help teachers promote historical thinking (Friedman, 2006; Swan & Hicks, 2007), extended practice of historical thinking is still hindered by the realities of the classroom.

From digital collections to learning environments

Early advocates of the Internet in history cited the ever-growing abundance of online resources as a key benefit for teacher use of the Web. However, seemingly limitless amounts of content coupled with absolute freedom to browse and investigate that content may be problematic. It is possible that boundless resources will overwhelm learners, causing them confusion rather than learning (Lee & Clarke, 2003). As such, researchers have noted the importance of self-contained collections and have investigated the design and use of organized collections, which provide boundaries of investigation by exhibiting resources organized by theme, date, or event. For example, Lee and Clarke (2003) investigated 11th Graders use of the organized collections provided by Cold War International History Project and the Avalon Project at Yale Law School to learn about the Cuban Missile Crisis. Saye and Brush (2007) conducted a nine-year study on the instructional design and use of the open learning environment (OLE) named Decision

Point: Civil Rights, which contained over 1,000 multimedia artifacts related to the 1950s-1960s civil rights movement. The artifacts were organized chronologically (by specific events) and thematically (i.e. legal challenges, nonviolent protest, and Black Power). Green et al. (2010) had students utilize a subsection of the Documenting the American South project that focused specifically on the Regulator Movement, a citizen uprising in North Carolina during the 1860s and 1870s. The learning environments in these studies demonstrate an evolution in OPS collection design from the digital archives investigated by Lee & Clarke (2003) and Bolick (2006) into learning environments that are organized collections that also utilize pedagogical tools to help scaffold students' understanding of primary sources and help students organize, analyze, and conduct research with those sources.

The studies on organized collections and learning environments to support historical thinking provide us with insight into the design and features of useful OPS resources. First, the organization of primary source collections is important. By categorizing a collection based on a central theme or time frame, teachers and students are provided with structured inquiry that decreases the potential to be overwhelmed or lost within the content (Lee & Clarke, 2003). Second, the addition of digital tools to serve as pedagogical supports can help scaffold learning through the process of historical thinking (Saye & Brush, 2009, 2007). And finally, resources and tools alone cannot guarantee historical thinking. While focused organization and embedded tools can help students through the process of historical thinking, the actions and guidance of the teacher are still important to support a student's development of historical thinking. A well-designed learning environment may allow students to engage in historical thinking without the support of teachers, but this is only the case with students who are already proficient with self-regulated learning in the social studies (Green et al., 2010). In short, Wineburg's

(2001) assertion that historical thinking is an "unnatural act" continues to be upheld, and the role of the pedagogue remains essential for the development of these skills by students. However, the unnatural act of historical thinking may be supported through the design of web collections.

Current directions

Nearly two decades of literature has provided us with a good deal of insight into the subject of technology in the social studies. The potential of the Internet to support social studies education may no longer be in question, as teachers report using online resources more frequently than in the past (Swan & Hicks, 2007; VanFossen & Waterson, 2008). The encouragement of technology use is also represented in research on the preparation of social studies educators, which shows that teacher educators are frequently including technology into their programs (Bolick, Berson, Friedman, & Porfeli, 2007). While there exists some evidence of the Internet's impact on promoting historical thinking, there is more evidence that the Internet has not helped transform history education, but rather enhanced old practices (Hicks et al., 2004; VanFossen, 1999; VanFossen & Waterson, 2008). While it can certainly be argued that improved enhanced access to materials afforded by the Web is in itself a significant impact on the teaching of history, the Internet has failed to transform history education into the student-centered practice theorized by scholar advocates in the 1990s.

Reviews of technology integration in the social studies (Friedman & VanFossen, 2010; Shiveley & VanFossen, 2009; Swan & Hofer, 2008) note the need for continued research within the classroom to uncover how technologies are actually used by teachers and students. With the development of Web 2.0 technologies, as well as new hardware, there is a new optimism about the Internet's role in transforming social studies education.

This renewed interest continues on the constructivist trend, with the focus now, not only on the affordances of access and student-directed research, but student participation and production of knowledge facilitated through Web 2.0 tools (Hammond & Manfra, 2009; Holcomb, Beal, & Lee, 2011; Manfra & Lee, 2012, 2011). As tools evolve, so might teachers' use of those tools. As such, the need for more research on teacher use of web technology in the social studies classroom is increasingly evident.

Some basic assertions about the design of historical thinking learning environments have been established, but there has still been little investigation into the design of OPS collections and what design features are helpful to teachers when supporting historical thinking in their classes. Also, the few bits of research we have on the design of learning environments have been performed by those affiliated with that learning environments' design. Design-based research is important, and the works of Lee & Clarke (2003) and Saye and Brush (2007) have offered a great deal of insight into the use of OPS by teachers and students. However, design-based research-- or research that only focuses on a single innovation-- is limited by its narrow scope. The purposeful investigation of an implementation is also a contrived situation, and fails to capture an organic look into realistic use of OPS in the classroom. Essentially, these studies help us see how a particular tool (i.e. a specific OPS collection) is used, but fail to capture what tools teachers choose to use on their own, and how they utilize those tools in the classroom.

Lee and Clarke (2003) noted the need for designers of OPS collection to "work with educators to construct interfaces that facilitate students' uses of digital historical resources" (p.11). Despite this suggestion from a decade ago, evidence of input from teachers on OPS resource design is lacking. Without this input, we are not able to understand how teachers are using resources in a realistic classroom setting. A potentially useful approach to gaining a better understanding of how social studies teachers use OPS

collections and other web tools is through studies investigating real-life use by history teachers in their classroom. By building a body of knowledge on the subject, it is possible to learn from teachers' perspectives how resources are actually used within the classroom context for which they were designed. By gaining the tacit knowledge of the end-user, researchers can better understand teachers' interactions with the resources and affordances of the website, and developers can develop design parameters for creating usable online primary source websites.

Framework for Investigating Technology Implementation by Teachers

In the field of educational technology, efforts have been made to help theorize teachers' incorporation of technology. The work of Zhao, Pugh, Sheldon and Byers (2002) provides one such theoretical framework. Through a multiple case study of ten K-12 teacher participants, Zhao et al. investigated the factors leading the success of technology integration in the classroom. They suggested nine factors that impact the degree of success of technology incorporation that were organized within three domains. The domains included: the innovator (teacher), the innovation (technology), and the context (class/school) (see Figure 1). Zhao et al. argued that understanding teachers' integration of technology could be approached by investigating factors within, and interplay between, the three related domains. The innovator domain encompasses the teacher and their proficiency with technology, pedagogical preferences and pedagogical alignment with technology, as well as the social placement of the teacher within the school community. The innovation domain refers to the technology being used in the instruction. Finally, the context domain encompasses the school, including the technology infrastructure and social support available therein.

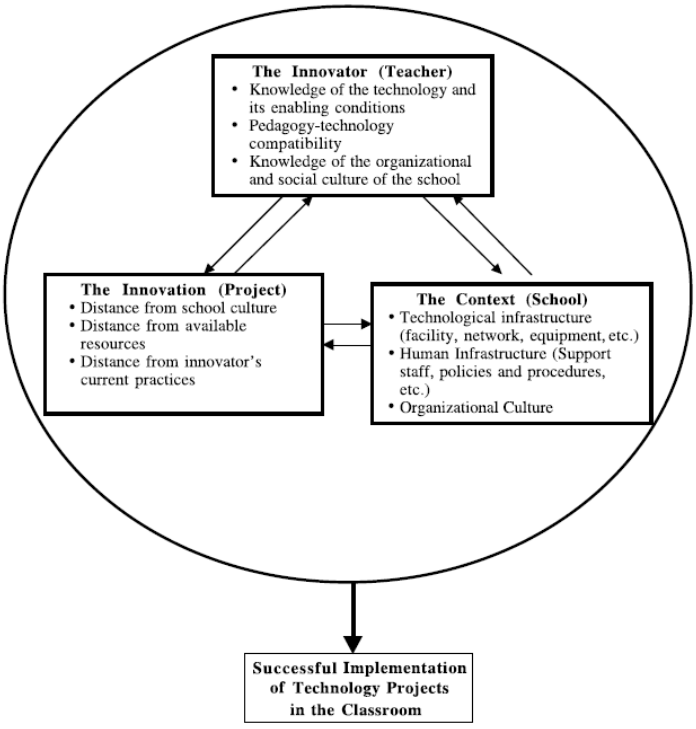

Figure 1: Three-domain framework for successful incorporation of technology innovations, Zhao, Pugh, Sheldon and Byers (2002).

This framework as an understanding of factors influencing teachers' use of technology is helpful for approaching the research questions of the proposed study. Applying the framework to this study, the innovator is represented by participants, who are practicing social studies teachers. The context, is represented by the school environments in which they teach. The innovation is the OPS technology (i.e. websites made for teachers to access online primary sources).

The innovator: Social studies teacher

When investigating the use of technology in the classroom, a practical starting point is to attempt to understand the teacher. Although administration or curricular pressures

might have an influence on teachers' selection of technology, it is ultimately the teachers themselves that determine what technologies are used and how they are used in the classroom. According to Zhao et al. (2002), three factors associated with the teacher contribute the successful use of classroom technology innovations: technology proficiency, pedagogical compatibility of the technology being used, and social awareness. Technology proficiency refers to not only the teacher's ability to effectively use a technology, but also the ability of the teacher to use that technology explicitly for teaching. Additionally, the teacher's pedagogical stance will impact the level of success of a technological implementation. Technology with high pedagogical compatibility, that is, consistency with a teacher's pedagogical practices, will be more likely to be implemented than technologies with low pedagogical compatibility. Finally, Zhao et al. noted the importance of the innovator's social awareness of their school. In their study, teachers who had a good understanding of the school's social structure and culture were more successful with the implementation of technology. Socially savvy teachers were more able to gain access to necessary materials and resources. Teachers with a high social awareness were also knowledgeable of who to ask for support with trouble shooting technology problems.

Because the teacher is such a crucial component to understanding technology use in the classroom, and thus understanding successful incorporating of online primary sources, a large part of the proposed study focuses on understanding the teacher participants. The three factors of understanding the teacher-innovator (technology proficiency, pedagogical compatibility, and social awareness) helped shape the interview questions. It is through this lens that I also intend to conduct observations and analyze data. It not enough to understand participant teachers' ability to use Internet technologies, but also their ability to use those technologies to engage their students in the learning of history. As such, interview questions will address teachers' familiarity and background with using

technology in the classroom. As teacher pedagogy influences teachers' choice of technology, I must also ask about teachers' pedagogical preferences and practices. For this study, I am specifically focusing on the use of web tools to promote historical thinking and working from the assumption that the Internet potentially supports this constructivist pedagogy (Crocco, 2001; Doolittle & Hicks, 2003; Molebash & Dodge, 2003). It is therefore crucial to examine teachers' understanding of constructivism and historical thinking, as well as their pedagogical rationale for using online primary sources and related tools. Social awareness within the school also helps teachers have success with implementation, so I will have to ask about teachers' interactions with support staff and other teachers. Because awareness of social spaces outside of campus or online (such as blogs, forums, or social media) may also contribute to a teacher's ability to find ideas or resources, it will be important to ask about teacher interactions within those spaces as well.

The innovation: OPS websites

As with the domain of the innovator, Zhao, et al. noted factors related to the innovation that contribute to the success of the implementation of that innovation in the classroom. These factors included: distance from school culture, distance from available resources, and distance from existing classroom practices. Zhao et al. found that technology supported projects were only successful if they fit within the dominant set of values, pedagogical beliefs, and practices of the teachers and administrators within a school. They referred to this factor as the distance from school culture. Projects that deviated or differed from school culture (such as requiring teachers or students to do something outside of what they normally did) failed. Next, innovations that have a close distance to existing classroom practices allow teachers to more easily incorporate those technologies. Similar to the emphasis places on aligning technology with the teachers' pedagogies, Zhao, et al. noted

the need for the innovation to fit with the preferred practices of the teacher who attempts to use that innovation in their instruction. Finally, distance from available resources refers to the amount of new technology or support needed for successful completion of the innovations. Innovations that do not require additional resources beyond what is already available to the teacher will be more easily executed than innovations that require the purchase of hardware or software or the hiring of additional staff.

In the context of this study, it is important to examine the technology tools being used by teachers to promote historical thinking. These tools include the websites that teachers and students use to access primary sources, as well as the web tools or computer software students use to practice historical thinking. It will be important to ask what tools (e.g. specific website, specific computer program or app) each teacher uses, and ask how they use them. By analyzing these tools in terms of teacher preferences, it will be possible to better understand the extent to which these technologies align with the participant teachers' practices. Finally, it is important to have an understanding of the available technology and support available to teachers and students, and how the access to that technology supports teacher practices with online primary resources.

The context: K-12 school

The final domain of the three-domain framework is the context in which the technology-infused instruction takes place: the school itself. The context domain also has several factors associated with it. These factors are: human infrastructure, technological infrastructure, and social support. A supportive human infrastructure was crucial to the success of technology implementation for the teachers in Zhao et al.'s study. This included a responsive support staff, institutionalized policies and procedures for accessing technology, and adequate professional development. Likewise, technology projects

required sufficient technological infrastructures in place within the school. This included reliable access to computer hardware and software and connectivity to reliable Internet. The final context factor noted by Zhao et al. was the social support within the school community. Having less to do with explicit technical support within the human infrastructure, social support refers to the support given by peers. Teachers who taught in an environment with administrators and other teachers who were excited to use technology were more likely to find support needed to try technological innovations in their own class.

The most technologically advanced and skilled history teacher could not implement the use of OPS in their classroom without the proper infrastructure to support that instruction. To access OPS websites, teachers and students must have access to reliable computers with reliable Internet connections. Additionally, they need to know how to access that technology within the school, so potential roadblocks such as hardware/software failures, firewalls, or lost log-in credentials, don't hinder the implementation. To investigate factors contributing the success of participant teachers' implementation of OPS, it is therefore necessary to examine supporting infrastructure provided by the participants' schools.

While Zhao, et al. highlights three distinct domains of factors that lead to successful incorporation, they note that they are not all equal. As they noted:

> Factors associated with the innovator, the teacher in our study, appeared to play a more significant role than the other domains. (Zhao, et al. 2002, p. 507)

The innovator domain is seen as the most influential because "ultimately the decision of whether and how technology is used rests on the shoulders of the teacher." (Ertmer, 2005, p. 27). To further examine why this is the case, concepts from Ertmer (1999) suggested that incorporation of technology could be attained by addressing first-order (extrinsic) and second-order (intrinsic) barriers. First-order barriers are factors that are

external to the teacher, of which the teacher has little or no influence. These include contextual barriers such as insufficient access to equipment, lack of training or support with technology, or lack of time required to implement technology-supported lessons. Second-order barriers are factors that are characteristic of the teacher. These include teacher knowledge, perceptions of technology, etc. It was the second-order factors that Ertmer suggested were the most influential in determining the "expert" use of technology in a classroom. While it can be agreed upon that first-order barrier create obstacles to technology integration, different teachers will assign different relative weights to those obstacles. This weight is dependent on each teachers' second-order barriers. If external barriers were limited or removed, the characteristics of the teacher, including their perception about access, perceived value of a technology, and knowledge of how to incorporate technology into their pedagogical practices may prevent successful incorporation of a technology. The opposite is also true, however. Even if a teacher is not provided with a great deal of technology or support, that teacher's beliefs and knowledge may help overcome the external barriers and allow for the successful incorporation of a technology.

Summary

The above studies provide the foundations on which the current study is based. In an attempt to contribute to the understanding of teachers' use of Internet resources to promote historical thinking, this study investigates four middle school teachers' experiences with technology use in the history classroom.

CHAPTER 3: METHODOLOGY

Although research has suggested that history classrooms have not significantly changed with the evolution of the Internet, we know that there are successful teachers who effectively use online primary sources to encourage historical thinking. It is likely that these teachers face the same types of barriers that have been highlighted in previous research, such as lack of time, pressure to teach to standards, technological difficulties, and pedagogical misunderstandings. A reasonable question to ask, then, is: how do certain teachers overcome those barriers?

The purpose of the current study was to better understand the experience of teachers who are using online primary sources to promote historical thinking. To investigate this topic, I asked the following question: *How do participating teachers use online primary sources and related tools to promote historical thinking in their instruction?*

To help focus the study the following sub-questions are being asked:

1. What specific tools/resources do teachers use and what elements of those tools do they find useful?
2. How do external factors influence the use of OPS?
3. How do internal factors (characteristics of the teacher) influence successful use of OPS?

Guided by the above questions, I conducted a qualitative case study with four middle grades history teachers. This study included interviews with teachers, classroom observation, and supported by document analysis. From on-going analysis of these data sources, I attempted to uncover common themes attributing to the success of teachers when using online primary sources to promote historical thinking.

Qualitative case study design

Qualitative methods are widely used in social research and are the most used approach in the field of education (Merriam, 2009). Qualitative studies source data through multiple strategies, the most popular being the use of interviews, observations, and the analysis of documents. Marrow and Smith (2000) explain that the purpose of qualitative research is to understand and explain participant meaning. The qualitative researcher attempts to construct an understanding of a phenomenon for those involved (Merriam, 2009) by analyzing the words and actions from informants within their natural environment. In this study, I attempted to construct the understanding participants' teachers have of the phenomenon of their successful incorporation of online primary sources.

The current study was developed as a qualitative instrumental case study to provide an in-depth investigation of use of OPS for instruction. Creswell defines case study as:

> an approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audiovisual material, and documents and reports) and reports a case description and case-based themes (Creswell, 2007, p. 73).

Stake (2005) differentiates between an intrinsic and instrumental case study. An *intrinsic* case study is undertaken to investigate a particular person or phenomenon, and is not intended for theory-building. The purpose of an *instrumental* case study is to provide insight into an issue. The case is secondary and provides a "supportive role, and facilitates our understanding of something else" (p. 437). For this study, the participant teachers, their classrooms, and their students provide a supportive role to help facilitate the understanding of OPS use to promote historical thinking.

This study relied completely on data collection through qualitative methods. Each method was chosen to address the research questions and was informed by the three domain

framework of Zhao et al. (2002), as well as the concept of first- and second-order barrier to technology incorporation (Ertmer, 1999). Data collection was completed through in-depth teacher interviews, passive participant observation of classrooms, and document analysis. Short focused interviews (Merton, Fiske, & Kendall, 1990) were conducted with each of the participating teachers, followed by an observation of their instruction. Documents collected included lesson plans, rubrics, and materials for students.

PARTICIPANTS

Ideal participants for this study were teachers who frequently used OPS for the purposes of encouraging historical thinking. I was not overly concerned with the frequency with which teachers use OPS in their classroom, but rather the way in which they used them. That is, I sought teachers who had a pedagogical preference for constructivist approaches, encouraging active student learning with OPS.

Gaining access to participants

Participant recruitment started in fall of 2013 and continued into the following school year. Potential participants were selected based on recommendations of colleagues and teacher acquaintances. Potential participants were contacted via email in order to gauge their interest in participating in this study (Appendix A – Participant Recruitment Letter). After screening subjects for suitable criteria, I was left with 4 participants who participated in the entire study.

Participant screening

It is essential that participants in this study met the criteria of being successful users of OPS in their instruction. For this study, I defined "successful users" as teachers who guided their students through the analysis of OPS to construct their own understanding of

history. To determine whether potential participants fit the operational definition of successful user of OPS, I developed a screening tool completed by each participant before the interview took place (See Appendix B - Screening Survey). The purpose of this tool was to provide a cursory look into the teachers' pedagogical approach to history and their use of technology in teaching. Through a mix of open ended and multiple selection questions, I was able to determine if the teacher reported (1) using OPS, and (2) expressed a preference for a constructivist approach to history. In addition to screening potential participants to determine whether or not they were a good fit for this study, the screening tool also allowed me to streamline and customize the interview process. The information I collected about the teachers' pedagogical and technological preferences helped shape the interview questions for each participant.

A total of 4 participants were chosen through purposeful sampling (Patton, 2012). According to Merriam (2009), "purposeful sampling is based on the assumption that the researcher wants to discover, understand and gain insight and therefore must select a sample from which most can be learned" (p.77). Selection of participants was limited to in-practice teachers of history. Because the purpose of this study was to learn from teachers who are actively using OPS to promote historical thinking, it was important to select teachers who actively use OPS.

Each of the participating teachers taught middle school history: two eighth grade (U.S. History) and two taught seventh grade (Texas History). The two eighth grade teachers had over 20 years of experience each. One seventh grade teacher had 18 years of experience and one was a fairly new teacher with only 2 years of experience. For the purposes of this study, the participants were assigned pseudonyms: Emily, Sarah, Susan, and Erin.

Emily had been teaching eighth grade U.S. history for 17 years. Over her 20 years of teaching, she had also taught history, U.S. government, and geography at the high school

level. Her education consisted of a Bachelor's degree with multiple majors in Political Science, History, and English. She went through an education program offered by her college, for which she was placed in a teaching position in high school. Emily was involved in the National Council for the Social Studies and the Texas Council for the Social Studies and was the department chair for social studies at her school.

Sarah was the youngest teacher of the participants and early in her career. It was her second year of teaching seventh grade Texas history and her third year of teaching overall. She taught at the same middle school as Erin. Before moving to Texas, Sarah taught U.S. history at the seventh grade-level in Louisiana. Sarah earned a Bachelor's degree in History and completed a teaching program offered by her university.

Erin taught eighth grade U.S. History in the same district but different school as Emily and Sarah. She had over 20 years of teaching experience and was a peer of Emily. Like Emily, Erin served as department head and was involved in Social Studies organizations (Texas Council for the Social Studies and Council for the Social Studies). Erin was the least enthusiastic about incorporation to technology, as she felt that there was inherent inequity involved in expectations of students to have access.

Susan had been teaching seventh Grade Texas history for the past 8 of her 18 total years teaching. Before teaching in middle school, she taught at the high school level where she taught history, geography, and other social studies courses. She taught at a separate district than the other 3 teachers, but followed the same set of state standards. Susan held a Bachelor's Degree in American History and completed a teacher education program after graduating from university. At the time of the study, Susan was enrolled in a Master's Degree program for education. Like Emily and Erin, Susan had been in leadership positions within her department. After data collection, Susan informed me that she had accepted a social studies coordinator position at the district level. Susan was devoted to implementing

technology in her teaching. As she explained during her interview (January 22, 2015), she "caught the bug" for technology incorporation while teaching at a technology-focused school. Her district had implemented a "Bring your own device" (BYOD) policy that allowed students to bring and use their smartphones in class at the teachers' discretion.

	Emily	Sarah	Erin	Susan
District	Rural	Rural	Rural	Suburban
Grade/Subject	Eighth grade U.S. History	Seventh grade Texas history	Eighth grade U.S. History	Seventh grade Texas history
Experience	20+ years	2 years	20+ years	18 years

Table 1: Participant information.

SETTING

This study took place in three different middle schools in two different districts in Texas (two participants were from the same school). Two schools are within Rural School District and one is in Suburban School District (both pseudonyms).

Rural School district is made up of about 12,000 students. At the time of data collection for this study, the vast majority of the students were Hispanic (84%), about 9% were African American, and about 6% were white. Roughly one-third (34%) of the student population were English Language Learners (ELL), and 88% of the student population were economically disadvantaged. Three of the teachers in this study were teaching in Middle Schools in Rural District. Emily and Sarah taught eighth and seventh grade,

respectively, in the same school. Theirs was the oldest middle school in Rural District. Erin taught at a newer middle school in Rural District.

Suburban School District was a much larger district of about 47,000 students. The student population was more diverse than at Rural School District. White students were the largest group with 43%, followed by Hispanic (30%), Asian (14%), and African American (9%). As compared to Rural School District, Suburban School district had a much smaller percentage of the student population who were English Language Learners (9%) or economically disadvantaged (27%). Susan taught at a middle school in Suburban District. This middle school was newly built to meet the needs of the fast-growing school district. Because the school was new, technology infrastructure was embedded into the construction of the school. I noticed wireless network hubs attached to the ceilings in the hallways which suggested the wireless network signal was strong throughout the school and was able to handle a high capacity of users.

DATA COLLECTION METHODS

Data collection was conducted over the spring of the 2013-2014 school year and the fall of the 2014-2015 school year. The following section describes the main sources of data collection: interviews, document collection, and classroom observation.

Interviews, Document Collection

Like most qualitative studies, much of the data collected for this study was through participant interviews. Dexter (1970) considers the interview to be a conversation with a purpose between researcher and participant. According to Patton (2002), that purpose is to find out from people what we can't directly observe:

> We cannot observe thoughts, beliefs, and intentions. We cannot observe behaviors that took place at some previous point in time. We cannot observe situations that

> preclude the presence of an observer…We have to ask people questions about those things. (p. 340-341)

Interviews vary in their amount of structure, from highly structured to unstructured. A highly structured interview involves asking predetermined questions, which are generally not flexible, and resemble an oral survey (Merriam, 2009). On the other end of the spectrum, the unstructured interview has no predetermined questions and resembles a conversation. The term semi-structured refers to interviews with structures that fall somewhere in between these two extremes. In semi-structured interviews, question topics and prompts may be predetermined, but the process is more flexible than with a highly-structured interviews. For this study, I conducted semi-structured interviews. Aligning within the three-domain framework of Zhao et al. (2002) and focusing on first- and second-order barriers (Ertmer, 1999), interview questions were designed to understand the teachers' pedagogical understanding of historical thinking, their proficiency with technology, their preferences when choosing technology, and their teaching environment (See Appendix C - Interview Protocol). I arranged to meet with each teacher individually during times she was not teaching (either a planning period or after the school day was over). Interviews were conducted audio recorded with a digital recorder. The interview sessions had no pre-determined time limit, and ranged between 30 and 54 minutes. Each recording was then edited to remove superfluous banter and interruptions that occurred. Each interview was then transcribed by the researcher.

Concurrent with data collection from interviews and observations, documents were also collected. Documents included: lesson plans, student activities, and other teacher-generated documents related to their instruction with OPS. The purpose of collecting these documents is to supplement interview and observation data. Documents such as these may provide valuable data because, unlike interviews and observations, these documents were

created for purposes other than "addressing the research at hand," and therefore grounded in the real world. Documents are unaffected by the researcher's presence, and as such, can be considered more objective sources of data as compared to other sources (Merriam, 2009).

Classroom Observation

Like interviews, observations serve as a main source of data in qualitative research. Observations provide data not attainable in interviews in that "they take place in the setting where the phenomenon of interest occurs" and "provide a firsthand encounter with the phenomenon of interest rather than a secondhand account obtained in an interview" (Merriam, 2009, p. 117). In order to understand the context domain (Zhao et al., 2002), it is necessary to investigate holistically teacher practice and interactions within their environment through observation. I observed one lesson for each teacher, observing in two different class periods for each teacher. Each lesson took up one class period, except for Emily's which was multiple days. For Emily, I observed the beginning and the end of the lesson. Altogether, I conducted a total of eight class periods of about 45 minutes each. During this time, I observed as a passive participant (Spradley, 1980). The passive participant observer is one that enters the space and time of the social situation being observed, but does not interact with those being observed. Although my presence was known and acknowledged by the participants, I made as little interaction as possible with them while I am observing. No audio or video recording took place during observations; however, I recorded my experiences in a field journal. During the classroom observations, I paid special attention to how the three domains of innovator, innovation, and context play out during instruction (See Appendix D – Observation Protocol). During certain points of each observation (e.g. before or after a class period or while students were working and the

teacher was available to speak with me), short discussions took place with the teachers. During these times, teachers shared reflections or explanations of events in the classroom. These interactions did not follow a pre-determined protocol, but were also documented in the field journal.

Emily - Eighth Grade U.S. History

The topic of Emily's lesson was the concept of freedom. The lesson came from a larger program by the Gilder Lehrman Institute of American History. For this program, the institute lent out a replication of a traveling museum exhibit to the school. The exhibit was called "Freedom: A History of U.S." and contained images, documents, and other primary sources displayed chronologically as a way to show the changing nature of freedom in the United States from the beginning of the republic through the Civil War (which is the end of the eighth Grade U.S. History curriculum). The Gilder Lehrman Institute also provided a digitized collection which was installed onto laptops for the school. The actual lesson was called "Freedom in a Bag" for which students selected primary sources from the collection, or others that they found themselves. Using a worksheet, students identified the primary source, describing the primary source and its context. Students printed out their chosen primary sources and decorated a paper bag with them. Inside the bag, they placed either personal items or representations of items or media (e.g. the lyrics of a song) that represented their understanding of the concept of freedom. Students worked individually on their projects and used mainly their smartphones to access primary sources online, or to take pictures of sources displayed on the replica exhibit. Students had three days to complete the project, and presented their bags at the end of the week, describing their choices and how they represented freedom.

Sarah - Seventh Grade Texas History

The topic of Sarah's lesson was the treaty of Guadeloupe-Hidalgo (the treaty ending the Mexican American War). The for this lesson, Sarah used content from the National Archives. The content included the transcribed text of the treat as well as an image of the actual treaty. In addition, Sarah utilized a student worksheet that guided students while analyzing the document. The basic structure of this worksheet was available from the National Archives, however it was intended for use by a U.S. History student. Sarah modified and re-wrote the worksheet so that it directly addressed Texas History. One or both of the students scanned a QR code with their smartphone. This brought up the transcribed text on their phone's browser. Students worked in pairs to answer questions about the document on their worksheet. The lesson took the entire class period and students turned in their worksheets at the end of the period.

Susan - Seventh Grade Texas History

Susan's lesson addressed the end of the end of cattle drive. For this lesson, students would have to analyze images and read secondary sources to in order to find the "culprit" who "killed the cattle drive." The possible suspects were: the rail road, telegraph, and the development of ranches. All resources for the lesson were organized in Google Classroom and students accessed them on individual laptops. Students first worked alone to answer guiding questions about each source. They then left their seat grouping to work with other students to complete their worksheets and form opinions on which was the "culprit." Students then went back to their normal seats to discuss their opinion and defend their reasoning. Students were instructed to form an opinion as a group, and to have one person share the opinion with the rationale. The lesson was completed in one class period, and students submitted their work through Google Classroom.

Erin - Eighth Grade U.S. History

Erin's lesson involved students learning about Holocaust survivors. This lesson took place after testing and was an additional lesson out of sequence with the rest of her course. For this lesson, students visited the website for the Holocaust Museum (www.ushmm.org/). The resources used by the students came from the museums online "Holocaust Encyclopedia," which is a collection of images, documents, audio, film, and other primary and secondary sources associated with victims of the Holocaust. For the majority of the lesson, students worked individually at their desks using laptops. Students first read about the Holocaust as a class as Erin had the site projected onto the screen in the front of the room. Students then used a worksheet to answer questions about the Holocaust and document what they learned from media available from the website. Students used the ID Card collection, which contained biographical information of Holocaust victims, as well as video recordings of Survivor testimonies.

Methods for Data Analysis

Data analysis in qualitative research is an ongoing process (Mertens, 2005), which occurs simultaneously with data collection. The purpose of this study was to understand the phenomenon of OPS to promote historical thinking through examining the data (Merriam, 2009). Aligning with grounded theory (Glaser & Strauss, 1967), generalizations explaining participants' ability to promote historical thinking emerged from the data as it was collected and analyzed. For this study, I adopted the constant comparative method (Straus & Corbin, 1990) to analyze data. As the name suggests, the constant comparative method is an iterative approach to analysis, one in which the researcher goes "back and forth" (Mertens, 2005, p. 423) with the data. That is, the researcher revisits data collected

at the beginning of the study to compare with new data collected throughout the study. Tentative categories are established toward the beginning of the study, and constantly modified and refined as the study progresses.

Management and organization of data is crucial throughout the collection process. For this study, digital copies of notes and transcripts were produced as text files. ATLAS/ti software was be used to manage digital copies of data. The software also assisted in the creation of organizational codes. Coding is a shorthand designation of the data so that specific pieces can be easily retrieved (Merriam, 2009). These units of data were initially coded with open coding (Strauss & Corbin), during which, the data was evaluated line by line to identify specific events within the data and labeled. As codes developed and emerged, they were used to organize and guide further data analysis. As more data was collected and analyzed, patterns became visible across data sources. As these patterns crystalized, individual units of data were grouped into categories. Categories were coded by external (derived from previous research and theoretical framework) and internal (derived from themes that become apparent from this particular study) coding (Graue & Walsh, 1998). According to Mertens (2005), this is an important part of analysis, because it is how the complexity of the data is brought back into the picture of the research purpose. Categories were continuously evaluated and amended, and it is from these categories that the themes emerged that made up the results of this study.

Limitations of this Study

The analysis of qualitative data is inherently interpretive. Qualitative research has historically faced criticism due to its subjective nature (Merriam, 2009; Stake, 1995). Qualitative research, stemming from an interpretivist paradigm, does not set out to establish objective truth, but instead is concerned with understanding participant meaning

of phenomena (Morrow & Smith, 2000). Therefore, qualitative research is based on a different view of reality than the positivist perspective, and as such, researchers should "consider validity and reliability from a perspective congruent with the philosophical assumptions underlying the paradigm (Merriam, 2009, p. 211)." Lincoln and Guba (1985) note the need for qualitative research to meet criteria of credibility, that is: are findings credible given the evidence presented?

There are a variety of methods for increasing credibility of findings in qualitative research. For this study, data triangulation (Denzin, 1978) was conducted to enhance credibility. Data triangulation involved comparing and cross-checking multiple sources of data (e.g. comparing observation notes taken at different times, interview transcripts from different participants, or comparing data collected from documents with interview transcripts). Member checks were also conducted throughout the study in order to help ensure adequate and realistic representations of the participants. To Mertens (2005) the member check is "the most important criterion in establishing credibility" (p. 255). In member checking, the participant is asked to review information for "accuracy and palatability" and may be asked to "provide alternative language or interpretation" (Stake, 1995, p. 115). Throughout this study, participants were contacted to discuss findings which not only helped address credibility, but also provided further insight and filled in the gaps I missed during interviews and observations.

This study, as with many qualitative studies, attempts to provide an in-depth focus of a relatively small population. Because of this, questions may be raised about the generalizability of the current study. However, generalization, when approached in the same manner as experimental or correlational studies, is problematic when applied to qualitative research (Merriam, 2009). As with the case of reliability, notions of generalizability must align with the philosophical underpinnings of qualitative research.

Additionally, due to "tremendous variations" (Erickson, 1986, p. 130) among people, cultures, and situations, empirical generalization is seen as a "lofty goal" (Merriam, 2009, p. 225) for social research. Lincoln and Guba (1985) instead suggest the notion of transferability when evaluating qualitative research, for which it is the responsibility of the reader to determine how the findings of a qualitative study may apply to other situations. They explain: "The original inquirer cannot know the sites to which transferability might be sought, but the appliers can and do" (p. 298). The "original inquirer," however, is not absolved from any responsibility in regard to transferability. To increase the likelihood of a qualitative study transferring to another setting, a researcher must provide sufficient descriptive data to the reader. By providing a rich, thick description (Geertz, 1973) of the settings and participants of this study, as well as detailed description of the findings with adequate evidence from quotes, notes, and documents (Merriam, 2009), I hoped to enhance the transferability of this study.

Ethical Considerations

This study follows the guidelines of the Institutional Review Board of the University of Texas at Austin, and was approved by UT Office of Research Support as "exempt from board review," meaning this study has been determined to pose no greater risk to its participants than they would encounter outside of a research setting, Although this study was determined as such, I took precautions to protect the confidentiality of the teachers who participated in this study, as well as others who I encountered (e.g. students, school staff, etc.) as I collected data. All participants were assigned a pseudonym. All referential information (such as names of people, locations, or institutions) encountered while conducting this study was neutralized.

I gained both site approval from the principal as well as district approval before conducting classroom observations. All interviews and observations were scheduled at times that best suit the teachers' schedule, and were not done at times that interfered with school testing or events. Participants were informed of their rights through a consent form (see Appendix E – Consent Form), and were allowed to withdraw participation at any time during the study.

CHAPTER 4: RESULTS

It has long been theorized that Internet and computer technologies would bring increased constructivist practices in the social studies. While technology use has increased in schools, educators have faced challenges trying to transform history education from traditional textbook and lecture-based approaches to student-led inquiry. In this study, I aimed to learn from history teachers who were using the Internet to access primary sources and promote historical thinking skills in their teaching. The purpose of the study was to better understand internal factors related to the teachers and external factors (related to the technology and the teaching environment) that allowed these teachers to use online primary sources for learning. To do this, I interviewed teachers and observed their instruction. I focused on the interaction of the three domains on innovator, innovation, and context (Zhao, Pugh, Sheldon, & Byers, 2002) to collect and analyze data. Three main forms of data were collected: teacher interviews, classroom observation and teacher generated documents. Through the constant comparative data analysis method (Glaser & Straus, 1967) and methods outlined by Strauss and Corbin (1990), a number of recurring topics emerged. These topics were coded and refined through methods outlined by Miles and Huberman (1984), resulting in 3 major themes. The first theme involved technology use in the classroom. The second theme addressed both reported and observed barriers faced by teachers when trying to incorporate OPS in their teaching. The final theme addressed is the evidence of teacher pedagogy in their approaches to develop students' skills.

These major themes make up the results of the current study. The following section is organized by the three themes. Each major theme has a number of associated subthemes that detail the data that supports the findings.

Theme one: Embedded technology in the middle school history classroom

The focus of this study was on how middle school history teachers used the Internet to teach through online primary sources. Through dialogues with the participating teachers and observing classes, I was able to better understand the ways in which technology was utilized in the classroom. A number of similarities were found among the data, making up the subthemes detailed below. The subthemes include: technology use by teachers, technology use by students, and teacher preferences for technology tools.

COMPUTER USE BY TEACHERS

Access and reliability of computers varied between each of the four teachers' classrooms. In each of the four classrooms, however, each teacher had access to her own computer located at her desk. Each teacher used the computer for similar administrative tasks such as taking attendance and viewing email. Relevant to this study, however, were the ways in which each teacher used the computer during instruction.

A ceiling-mounted projector was also present in each teacher's classroom. This projector was connected to the teachers' computers allowing them to project the content on their computer to a screen or whiteboard positioned in front of the class. The conspicuous positioning of the projectors gave me the sense that these were used often in the classes. From my observation notes, I described the arrangement of student desks in relation to the projector in a similar way.

> Students are organized in groups more than rows, in a semi-circle around a focal point of the classroom. At the focal point is where the projector is focused on a section of the wall, or, at times, where the teacher stands to give directions. (Observation notes, Emily's classroom, May 26, 2014)

> Student desks are organized in rows, and the class is very cramped. Sarah's desk is at the back corner of the classroom at an angle, so when she is sitting at it she is

> facing the back left side of students. The focal point of the class is the front whiteboard, where the projector is pointing. (Observation notes, Sarah's classroom, January 9, 2015)
>
> Student desks are in rows facing the whiteboard in front of the classroom. A projector is mounted on the ceiling, pointing towards what would be the middle of the whiteboard, but a screen is pulled down for the projection. Coming from Erin's computer. (Observation notes, Erin's classroom, May 22, 2015)

All four teachers used the projector in conjunction with her computer for the entirety of every class period observed. The ceiling-mounted projector was used in a number of ways. Emily used her computer and projector to display the "bell-ringer" (short activity at the beginning of the class period) vocabulary activity, as did Sarah and Susan. In Emily and Sarah's classes, five weekly vocabulary words were projected on the screen in front of the classroom. These words were related to the current lesson and students were required to complete a different activity with the words each day of the week (e.g. find the definition, use the words in a sentence, etc.). Susan also used her computer and projector to display the daily bell-ringer. In this exercise, students were to read a passage from the journal of a Texan rancher, answer three questions about the passage, and summarize the passage in a sentence.

Each teacher also used her computer and projector as part of the day's main lesson as well as model the tasks students were required to do. At the beginning of her lesson, Emily loaded the Gilder Lehrman application on her computer to project onto the screen in the front of the class. This enabled her to highlight the features from the program that students were expected to use.

Susan used her computer and projector to explicitly model the steps of her lesson. To introduce the theme of her lesson (changing technology and its impact), she first guided the class through several slides summarizing the impact of cellular phones replacing the need for phone booths. After introducing the theme, Susan then opened the PowerPoint she

made that outlined the day's lesson and went over it in front of the class. She also modeled for the students how to access the necessary materials for the lesson using Google Classroom.

Sarah used her computer/projector combination to supplement the activities being completed by the students. In her lesson, students were using their own mobile devices to read a typed transcript of the Treaty of Guadalupe Hidalgo. During observation of her lesson, she explained to me that she thought that the screens on the mobile devices were too small, making the already difficult-to-read handwriting of the original document even more difficult. However, she wanted to put the document in context and show the original, so Sarah posted an image of the actual document from the National Archives.

For Erin's lesson, students were required to first visit a page created by another eighth Grade history teacher. On this page were links to the websites that were to be used for the lesson's activities. While there was no Bell-Ringer in Erin's lesson, students were first required to read a passage on the Holocaust and answer a few questions about it on their worksheets. In her honors-track period, Erin simply pulled up the page with the passage to show her students. In the class with SLD students, however, Erin had the students do the reading comprehension exercise as a class while she worked with them on her computer and projector.

STUDENT USE OF COMPUTERS

Teachers reported a variety of technology use by students in interviews. During classroom visits, I observed students using laptops, tablets, and personal smartphones.

In three of the four classes observed, students used laptop computers, with Sarah's class being the one exception. Emily had reserved some laptops to be used in her class for the lesson I observed. However, she was only able to get six laptops into her room, as the

collection of laptops available to her had to be shared with the other eighth Grade history teachers. Although there were six laptops available, I only observed three students using the laptops to complete their assignments. The portability and quality of the laptops were very limited. Due to the age of the laptops, the batteries did not hold a charge. As such, they were not very convenient for students to use.

Students in Susan's class utilized laptops the most out of all the classrooms observed. Other than the initial Bell-Ringer activity (for which students used notebooks), students used laptops for the entirety of the day's lesson. Enough laptops were supplied through the use of a "COW" (Computer On Wheels) cart that each student in the classroom could use one. Before students were given laptops, Susan introduced the theme of the day's lesson, and instructed students on where they would find the lesson material. Susan made extensive use of Google Classroom in her instruction. All of her students had Google accounts and were able to access all of the lesson materials digitally. Once students were seated with their laptops, Susan had her students work on their own to complete as much of the task as they could on their own. After 10 minutes, Susan instructed the students to find partners away from their group to work with. Finally, she had students return to their original groups and discuss what they found with one another, finally having a member of each group share out to the class what they found. Due to the portability of the provided laptop computers, students were able to move around the room to work with multiple classmates.

Susan's students used laptops for every part of the lesson. Materials for the lesson were organized in Google Classroom. Students could download the instructions that were given in a PowerPoint. The PowerPoint provided links to all of the primary sources that the students were to analyze. The students answered questions on a word document that was also available on Google Classroom. If students were unable to finish their work during

the period, they had access to their own folder on a server that they could access from any computer on campus. Once the students were finished with their work, they could submit it to Susan within Google Classroom. From there, Susan could grade their work and give feedback as well as keep track of their grades.

Erin was also able to reserve a COW cart for her classroom during the observed lesson. As with Susan's class, enough laptops were available to allow each student to use a computer. For this lesson, students worked alone at their desks. Students accessed primary sources from the National Holocaust Museum's website. They viewed images and documents related to Holocaust survivors. They also listened to the personal accounts as told by the survivors in recorded interviews. Erin said she tried having students submit work online, but it was too complicated.

> I asked if they had Google Accounts. She said yes, through the district. So all students had access to Google docs, and Gmail account. However, this district did not have Google classroom so organization and logistics were still difficult. (Erin, conversation, paraphrased)

In contrast to Susan, who felt that digital submissions were more convenient to handing in paper worksheets, Erin felt that using the tools available to her and her students made grading more difficult than a traditional paper worksheet.

STUDENT USE OF MOBILE DEVICES

Three of the four participants used mobile devices in their instruction. Susan's district had adopted a "BYOD" (Bring Your Own Device) policy, which allowed students to bring their smartphones or tablets to use in class at the teachers' discretion. The district in which Emily, Sarah and Erin taught had "no phone" policy in place. District-wide rules dictated that students were not allowed to use their phones during school hours and were required to keep their phones turned off and stored. However, both Emily and Sarah

reported allowing students to use their own smartphones under, effectively establishing their own BYOD classroom policy.

Teachers implemented mobile devices as a replacement or supplement to the technology available to them in their schools. In Emily's classes, students were required to search for primary sources to include in their project. Because there were not enough laptops or other school-supplied devices for students to use, Emily allowed her students use their own smartphones to supplement the technology in the class. The majority of students observed used their own devices during the lesson. Students used the web browsing capabilities to search for historical images and other resources through Google and through the Gilder Lehrman website. Students were required to use 4 resources from the physical exhibit set up in the other classroom. Many students used the camera on their smartphones to take pictures of their selected resources from the exhibit. The final product of Emily's lesson required their chosen primary sources to be printed out. Students were not able to connect directly to a printer with their devices, so Emily instructed students to email the primary sources they chose to Emily's email so she could open them on her computer and print them out.

Sarah's student also used their smart phones for the observed lesson. Student-owned smart phones were not merely a supplement to the technology available, as was the case with Emily. Smartphones were the only technology available to students during Sarah's lesson. Students were required to analyze the Treaty of Guadalupe Hildalgo. In order to access the document, students used a quick response, or "QR" code provided by Sarah. When students scanned the QR code with the camera on their devices, the browser on their phones linked to a transcribed version of the document on the National Archives website (www.archives.gov). Once students linked to the document, students worked in pairs to answer questions about the document. Although the text was quite small on the

devices, the "pinch and zoom" function afforded by the devices' touch screens allowed students to read the text with no difficulty that I observed.

I did not observe students using smartphones or other mobile devices in Susan's class. However, there was evidence that Susan's lesson sometimes involved the use of student-owned devices. As mentioned earlier, students in Susan's school district were able to use their own mobile devices in the classroom at their teacher's discretion. Susan placed a sign on her classroom door which had "Today IS a BYOD day" printed on one side and "Today is NOT a BYOD day" printed on the other. This sign allowed students to easily see whether or not they were going to use their devices for the day's lesson. Susan explained that students knew whether or not to power up their devices as they walked in the classroom, ultimately saving time without interrupting the flow of a lesson. On days that were "not BYOD" days, students knew that they were to keep their devices turned off and stored. When asked how frequently smartphones were used in her classroom, Susan explained:

> We probably use them about once a week for a lesson. A few times a year, we have projects that take more time, then we will use them for several days in a row. (Susan, interview, January 22, 2015)

When asked how students used their smartphones during lessons, Susan described usage similar to the observed usage in Emily and Sarah's classes which was limited mainly to viewing multimedia resources:

> They can access the Google Classroom lesson for the day. I will have links to videos or post images that I want them to see for the lessons. The phones are good for accessing individual items like that. We have WebQuests- or they are like WebQuests- that I make, but those have multiple parts and require students to save a document or submit an assignment and that is difficult from the phones. (Susan, interview, January 22, 2015)

Erin was the only participant to say that her lessons never involved the use of mobile devices. She made no mention of the district's no phone policy as a hindrance to her incorporation student-owned devices. Rather, it was her assumptions about her students' ownership of phones that prevented her from using smartphones. Like other participants, she was aware that there are disparities in device ownership among students. However, Erin believed that this would allow some students an advantage over others in her class:

> Between my kid that's got a working Internet connection and a cell phone and whatever and my kid that has nothing – they need to have the same shot at being successful in my class. (Erin, interview, May 7, 2015)

While Emily and Sarah found that grouping students or providing various devices would make up for any inequality of student device ownership, Erin felt that relying on student-owned technology was inherently unfair:

> It's wrong, especially when you have a high poverty rate. We're 84 percent free lunch, so huge poverty rate. It's just not fair. It's just not fair. Yes, they do work outside, but the work is self-contained. It is pre-prepared so that every single kid can be successful no matter what their resources are outside of class. (Erin, interview, May 7, 2015)

Types of mobile devices used

As both Emily and Sarah's students used smartphones during observation, I was able to witness actual ownership of phones by students. As detailed from observation notes during Emily's lesson:

> Most students have their phones out (iPhones seem dominant). Many of these students have their headphones connected to their phones and are listening to music, I assume, because they are not actively viewing/handling their phones. Instead, these students are working on their worksheets, or viewing other devices, such as the iPad or the laptop, or their neighbor's device. (Observation notes, Emily's classroom, May 26, 2014)

In Sarah's class, I also noted the types of phones being used and how students were using them:

> Students work in pairs. I see all types of smartphones, mostly Android (HTC, LG), and some Apple and Samsungs. The majority of the students have their own smartphones, so most pairs have two smartphones. A couple of pairs share one phone between the two students. (Observation notes, Sarah's classroom, January 9, 2015)

Student-owned smartphones made up the majority of the hardware used by students in the classrooms of Emily and Sarah. However, smartphones were not the only handheld devices being used in Emily's class. Emily had access to four iPads in her classroom. These iPads were not furnished by the school, but rather purchased with a technology grant awarded to Emily. Students used the iPads similarly to how they used phones: by doing Internet searches for historical images for their projects. Because the students would eventually need physical copies of the images they found, Emily instructed them to attach the images to an email to either send to themselves to printout at home or the computer lab before or after school, or email the images to Emily's email address to print out in the class.

INTERNET RESOURCES

Schulman's (1986) teacher knowledge was made up of a number of elements, including "curricular knowledge," which is the awareness teachers have of resources. Teachers build upon this knowledge through experiences as well as through communities of practice. In the past, curricular knowledge may have included knowledge of additional books or outside curriculum, but in the Internet Age, teachers are able to access a variety of digital resources. Teachers participants demonstrated their curricular knowledge through discussions with me about their preferred resources, as well through the use of the resources during classroom observations. Although the amount of teaching experienced varied between participants, each teacher had accumulated preferred resources to use for her

instruction. These resources included websites that provided content (i.e. primary sources), teaching materials (e.g. lesson plans, student activities, etc.), and tools to execute lessons.

Content

Each teacher reported obtaining subject area content from the Internet. This content included primary sources as well as secondary. No teacher reported using textbooks often in the preliminary survey. Discussions with the teachers provided more detail about the lack of textbook use in the classroom. According to Emily: "Our kids don't read textbooks anymore." (Emily, interview, May 5, 2014) Sarah explained why this was the case:

> I don't know. I think because those are very old – I guess Texas is trying to go digital with the textbooks? … That's just what I've been told. We don't even use the textbook because it's so old. There's apparently stuff that's wrong in there. (Sarah, interview, January 16, 2015)

I saw history textbooks in all of the four classrooms observed. However, I saw no evidence of the textbooks being used. No teacher admitted to using their provided textbook for their instruction. The only use for textbooks that was explicitly mentioned was by Sarah, who said she would have students copy from the textbooks as a form of punishment. Without the use of a textbook, teachers had to obtain instructional content themselves. Much of this content was obtained via the Internet.

Evidence from the preliminary surveys showed that each participant reported using Google searches to find primary sources. Teachers all also reported using the National Archives website (https://www.archives.gov/) and the Library of Congress (http://www.loc.gov/teachers/) to find specific primary sources. Sarah and Susan both noted that they used content from the Portal for Texas History (http://texashistory.unt.edu/). Both teachers of Texas history reported using the Texas State Historical Association website (https://www.tshaonline.org/home/), as well.

Teaching materials

Online primary sources were first available through digital archives. Some online primary source websites have made part or all of their site devoted to providing education sections, often intended for use by K-12 teachers. These involve curated sections containing primary sources from a specific time period or theme. Additionally, sites have begun providing teaching materials for using their primary sources, such as lesson plans, student activities, and teacher scripts.

All of the teachers in this study reported visiting a variety of sites to find specific content for their lessons, including documents, images, video or audio. Through conversations with the participants, it became apparent that they used teaching materials from websites as well. During an interview, Emily showed me an online tool created by the National Archives with which students could analyze primary source documents on an iPad. For Emily, the value of this resource was that the document analysis was done without worksheets, and the material was self-contained:

> National Archives, they have this fabulous thing called DocsTeach. Okay so I can do a class and they can come in, I can assign documents. They have to sequence them, talk about them. They can answer the questions right on here instead of worksheets. Oh, my God, the worksheets are so tedious. So it's just mind boggling especially for eighth graders. (Emily, interview, May 5, 2015)

Like Emily, Erin used a resource that she found to be interactive for the students. Having a leadership role, she was able to implement this resource among the social studies department:

> As a department chair, all of my teachers that are in my department have been trained through History Alive. History Alive is out of California. They have a style that matches my style. It's very interactive. It's very hands-on. It's very student-driven. (Erin, interview, May 7, 2015)

Sarah relied on the aforementioned websites for Texas history for teaching materials, as she had limited experience with Texas History:

> A lot of the lessons especially for Texas history – because I'm not very good at history – I get online. The Texas State Historical Society – I get a lot of stuff from the Texas archives and the Texas Portal. I just have 'em all bookmarked. (Sarah, interview, January 16, 2015)

Although Susan had experience with Texas history, she also used the Texas state historical organizations' websites to find resources for lessons in her Texas history class.

> The Texas State Historical Association has a lot of resources for the topics we cover in this class. It has documents and pictures, but also provides a lot of biographies that I like to use. Students can read about the people they learn about, the actual person. (Susan, interview, January 22, 2015).

Each of these teachers valued websites or online learning environments produced by prominent organizations with a variety of content for their specific subject area. Teachers also preferred resources that had embedding learning materials embedded within primary and secondary sources.

Learning management tools

In addition to content area and teaching materials, teachers also used the Internet to manage instruction. Teachers reported and were observed using a variety of internet-based platforms for organizing lesson materials, directing students to content, and accepting and displaying student work. For example, Emily explained ways she and her students used Facebook for certain lessons.

> I have a Facebook page that students can access…I have a class page and I have like over 40 kids of mine who are on it all the time. (Emily, interview, May 5, 2014)

By using Facebook, Emily was able to extend the conversation with her students outside of class:

> [We also] compare the primary sources with fictional accounts like with Pocahontas. There's a Stanford lesson that we do about whether John Smith is lying or not about Pocahontas saving him. I have a Facebook class page and I put

> their stuff on there so the kids can actually see the things that they bring up and then we talk about those kinds of things. (Emily, interview, May 5, 2014)

Emily used the Facebook class page to remind students of work and provide a way for student to know what they missed. She explained to me that the students are aware of this and do not have an excuse to miss work. In addition, Emily created a class webpage so her students who did not use Facebook could also benefit:

> I have a class web page that kids can go to, to get the day's lessons, videos. I upload my PowerPoints there, their homework, everything, so they don't need me if they're absent or out. They can also make up quizzes, take tests again, play games to review, all that is there. (Emily, interview, May 5, 2014)

Emily also experimented with tools to keep in contact with students to remind them and their parents of due dates:

> I also use Remind101 to call parents and update kids on assignments and stuff like that. I've tried using it more this year. I think I like Schoology better, I'm not sure but, you know, I'm just trying to find my place. (Emily, interview, May 5, 2014)

Susan made extensive use of Google Classroom. Through Google Classroom, her students all had their own accounts and could access the materials for all Susan's lessons. Susan informed me that students could also access the materials outside of class, if a student needed to make up an assignment. Out of the four teachers, only Susan had access to Google Classroom, and she made use of it as much as possible. She said that if every student was supplied a laptop or other device, she would not use any paper.

> I put everything on Google Classroom, and [students] can use their log in and get to the materials and assignments. It's more organized: they can turn in their assignments and I can grade them all in Google Classroom. I try to be as paperless as possible. So I'm not wasting time in the morning in the copy room making copies. (Susan, interview, January 22, 2015)

During observation, Susan reiterated the benefit of Google Classroom tools while teaching. Whole students were starting the lesson, Susan pointed out to me: "we don't have

to waste time with handing out or collecting materials- they're already on Google Classroom."

In the district where Emily, Sarah, and Erin worked, students and teachers had Google accounts for email and had access to some Google tools. Erin used a Google Site created by another history teacher at her school to instruct students on the lesson and to provide a place to aggregate the links that students needed to access. However, the district did not have Google Classroom like in Susan's district. Erin explained during observation that she tried to have students turn in work using the Gmail accounts, but found it difficult to keep track of all the submissions.

> I tried having students email me their work. If you have over 100 students, it's hard to keep track of every assignment and who turned it in. The don't use subjects in the emails and it becomes a nightmare trying to keep tabs on everything, so I stopped doing that. (Erin, discussion during observation)

Erin did make use of a Weebly site (a free site building tool) to provide information for lessons such as background and links. Because all eighth Grade history classes had the same lessons planned, this Weebly page was used by all the eighth Grade history classes. Erin explained that the teachers would plan together, and one of the teachers was responsible for creating the Weebly pages to be used by all classes.

> As students power up and log into their laptops, Erin walks around and hands out a worksheet. She instructs students to go to the URL at the top of the page. The URL takes them to a Weebly site that Erin told me was created by another eighth Grade history teacher. The webpage provides some information about the topic of the lesson: The Holocaust. It also give a brief overview of what the students were going to do for the lesson and links them to the Holocaust Museum website. (Observation notes, Erin's classroom, May 22, 2015)

I did not observe Sarah using Internet tools as a repository in her classroom to manage lessons. However, she did use a QR code so students could easily find the document on the National Archives website:

> As students walk in to the classroom, they pick up a sheet of paper from a stack on a desk next to the door. Sarah reminds students to pick up a sheet, but students seem to already know to pick it up as though this is a common practice. On the sheet, there is a QR code linking to the National Archives site …After instructed, student scan the code and a typed transcript of the Treaty of Guadalupe-Hidalgo opens in the students' browser. Again, I assume this is a common practice in Sarah's course, as students already have QR scanning Apps on their phones and are not asking many questions about how to get the QR code to work. (Observation notes, Sarah's classroom, January 9, 2015)

Finding resources

During interviews, participants were asked "Where do you find resources?" Emily, who was active in the social studies education community, explained that she found resources through a Twitter conversation held every Tuesday night using the hashtag "#sschat" (short for social studies chat).

> I take part of the social studies chat on Monday nights, which has really helped me learn different applications for the iPads and things like that. I'm pretty dependent upon it. (Emily, interview, May 5, 2014)

Erin, who had taught for over 25 years and was a member of social studies organizations, noted that she learned about new tools and resources through physical meetings at conferences. She notes how she believes more experienced teachers differ from newer teachers in the ways they find resources:

> Younger people don't know. They really don't. It's really hard to get the three-year, four-year, five-year in to go to a meeting. They just don't see the benefit of it. The reason why is because they get their teaching ideas online now. When I started, I started in 1985. There was no online. There was no Google. There was no online way to share teaching ideas. So all of my teaching ideas came face-to-face. Now the younger generation doesn't see that as a useful source because they can Google it and find it and grab something off of Teacher Tube that fast. That's been a huge change out of the last 30 years. (Erin, interview, May 7, 2015)

Sarah, who was one of the younger teachers of which Erin was referring, corroborated Erin's understanding that younger teachers rely on the internet for collecting

resources for instruction. When asked how her teaching might be different without the Internet, Sarah responded:

> It would be very difficult. It would be so hard to incorporate primary sources. I wouldn't have access to hardly any primary sources. I don't even know if I could imagine that. Maybe I'd go to more flea markets and find stuff. It'd be a lot harder to teach history if I didn't have access to any primary sources. (Sarah, Interview, January 16, 2015)

Susan, who was a veteran teacher, found resources in both the traditional ways of which Erin spoke, and by searching the Internet for resources:

> I find a lot on my own, by searching. I read blogs or sites that feature new technology for teachers. If I find something on my own, I will share it with a few of the teachers here who are interested. Teachers are always sharing resources that they find. If they are excited enough about it, they'll want to tell other teachers about it. (Susan, interview, January 22, 2015)

CLASSROOM MANAGEMENT WHILE USING TECHNOLOGY

Three of the four teachers were rigid in pacing and structure in order to get through the lesson in one day. For the two teachers who utilized COW carts, there was additional time need bookending the lesson: passing out computers in the beginning and putting them away at the end. In Susan's class, laptops were distributed following the bell-ringer and introductory class activity. Susan read through a class roster to assign computers.

> After going over the warm up, Susan then explains that they will be using the computers today. She calls up students one by one reading from a list. She assigns them to a computer to pick up form the cart (e.g. Nichole, #12, from Cart A), although a bit tedious, this method seems to actually streamline the process, reducing bottlenecks by allowing a steady stream of students to and from the computer cart. (Observation notes, Susan's classroom, February 18, 2015)

Students approached the COW as their names were called and took the laptop assigned to them. This approach to assigning computers prevented students from crowding the COW or potentially spending time choosing a computer. This controlled, fast-paced

approach to distributing computers extended throughout the lesson. Susan maintained control over time and gave students explicit instructions as they changed spots throughout the class period.

> Susan is constantly moving throughout the class. Everything is very fast-paced and seems rehearsed. Each part of the lesson is strictly timed. At certain intervals, Susan gives commands: "At your tables, read alone for 5 minutes," "In 2 minutes, you will find a partner to answer your questions." When that is over: "You have 10 seconds to find a partner," and students move to different parts of the classroom. Later, "In 2 minutes, you are going to return to your communities (the term that is used for desk group)." "Talk about your answers with your community. It's ok if you have different answers, and it's ok to change your mind about yours. We are sharing out in 5 minutes."(Observation notes, Susan's classroom, February 18, 2015)

At the end of the lesson, Susan called each table by group name to have them put back their computer. When every computer was returned, a student ensured that each was plugged into the charger. In between class periods, Susan explained that it was important to have structure when students used laptops.

> I like to be very explicit so students get the computer and go back to their seats to log in. If students all come up at once, it creates a bottleneck. Students end up standing around waiting for a computer and get distracted. (Susan, paraphrased discussion during observation,)

Erin's lesson, which took place at the end of the school year and on a topic chosen by the students, did not have the same fast pace and rigid structure as in Susan's class. However, students were required to work within the confines of one website. Erin explained the need for a focused approach when using students use the Internet:

> "Go on Google and find whatever-" we don't ever do that because by the time that they read through the possible headings that they're going to get on Google, we would have wasted a whole class period. (Erin, interview, May 7, 2015)

I observed Erin conducting a lesson with laptops. She assigned laptops in a manner not quite as explicit as Susan, but still gave clear directions:

> Erin stands at the door while students enter. She directs students to the COW cart that is near her desk, in the opposite corner of the room. Students pick up laptop as they come in and go to their desks. Erin tells the students to log into the laptops when they get to their desks. She repeats these instructions multiple times as more students enter (Observation notes, Erin's classroom, May 22, 2015)

After students were all seated, Erin continued to give explicit instructions about getting logged into the computers and accessing the Weebly site being used for the lesson.

> Students have sat down at the desks. Erin is walking down the aisles, placing a worksheet on each student's desk. The Weebly URL is written at the top of the worksheet. Although it seems like all of the student have powered up their computers and have logged in, about half of the students are at a loading screen. Erin, aware that the laptops are being slow to log in says "We are at the point where your computer is working harder than you are. If you are logged in, open the browser and go to the address that is written on the worksheet. About half of you are still waiting on your computer, just be patient and wait for everything to load." (Observation notes, Erin's classroom, May 22, 2015)

Sarah, who used mobile phones, did not have to take additional time to assign each device, but she did give explicit instructions and had procedures on their use:

> After the bell-ringer activity and some settling of class issues (making sure all students picked up necessary sheets, etc.), Sarah instructs the students to turn on their phones: Turn your device on, because I know it's off, right?" She says this in a sort of scolding and reminding way. Sarah has told me that it is the policy of the school to take phones away if they are seen at all during school hours, so it is understandable that Sarah wants to ensure that students aren't pulling out their phones and turning them on prematurely. (Observation notes, Sarah's classroom, January 9, 2015)

Students seemed to be aware of the policy regarding smartphone use, which was technically prohibited by the school and district. Students also seemed to be aware of the requirements of phone use for lessons in Sarah's class. However, keeping management over time and appropriate use was still of high priority in Sarah's class:

> Sarah tells students to scan the QR code. I am assuming students have done this, too, and have the proper app to scan the code, because students don't have any questions about that. Sarah tells students to let her know if they are unable to scan the code. She helps several students, who I think might be having trouble with the wi-fi. AS she walks around from student to student, she is giving instructions on

> what they should be doing: “You should have the document open on your phone.” Right after that: “Read the questions on your worksheet, then read your phone. Answer the questions on your worksheet as you are reading through.” Later: “You should be half-way done.” She continues to give updates on time remaining, constantly walking through the class to ensure students are on task and working at a sufficient pace to complete the assignment before the end of the period. (Observation notes, Sarah’s classroom, January 9, 2015)

Emily had students walking around but she had allotted a week for this project, so the lesson was not as face-paced as the other teachers. Emily’s lesson also differed in that students were not required to use a specific device, but were given options:

> Once students are reminded about the specifics of the project, Emily instructs the students that they will have the rest of the week to work on the projects in class, and tells them that they may use the laptops provided in the classroom. They may also use one of the 6 iPad minis that Emily was awarded for her class as part of a grant which she took the initiative to apply for. Additionally, she informs the students that they may use their own phones to find resources for the project. (Observation notes, Emily’s classroom, May 26, 2014)

Emily’s management style seemed lenient, and she instructed students on what the finished product was supposed to be and provided them guidelines for finding resources, rather than limiting the students to pre-selected sources:

> The classroom is quite chaotic, and Emily is constantly assisting students individually, students ask her questions about logistics of the project ("I need another [matrix/lesson plan]" "Can I go to the computer lab?") as well as specifics about the primary sources "Can I use [this picture/ this document]?" To these questions, Emily does not say yes or no, but rather asks "How would you use it?" or "How does that represent freedom to you?" (Observation notes, Emily’s classroom, May 26, 2014)

SUMMARY OF FIRST THEME

In summary, teachers and students used a variety of hardware including: desktop and laptop computers, tablet computers and student-owned smartphones. Susan and Erin were able to access a classroom set of laptops for their students to use by way of a Computer on Wheels (COW) cart that was shared between classrooms. Because Emily and Sarah

were in a school where there were not enough reliable computers for each student to have one, these teachers allowed their students to use their smartphones to supplement available technology. Students used this hardware to connect to the internet to access materials necessary for them to complete their primary source-based lessons. Teachers had preferred resources for content as well as teaching materials. Internet tools were also used for learning management. These preferred resources were cultivated by teachers through their own trials and through suggestions by colleagues and other teachers through online discussions and searches. While using computers, teachers used different management approaches. Three of the four teacher used a fast-paced explicit approach to complete a lesson in one class period. Emily was the exception to this, as her lesson lasted a full week and was able to work at more lenient pace.

Theme two: Challenges associated with OPS implementation

The second emerged theme addresses the barriers encountered by teachers. Barriers can be internal or external (Ertmer, 1999) and can be put in terms of the innovator, innovation and domain (Zhao, et al, 2002). Much of the literature on the use of OPS in classrooms has identified a variety of factors relating to the context domain including lack of technology (Friedman, 2006; Hicks et al., 2004; VanFossen, 1999), time restraints (Friedman, 2006; Hicks, et al., 2004; Hoffer & Swan, 2006; Lee, et al., 2006), and pressure to teach to standards (Friedman, 2006; Hoffer & Swan, 2006). Internal factors, representing the innovator domain have also been shown to prevent successful use of OPS, including beliefs (DeWitt, 2004; VanFossen & Waterson, 2008), and pedagogical preferences (Doppen & Tesar, 2008; Salinas, Bellows, & Liaw, 2011).

In the current study, teachers faced similar challenges as those faced by teachers in previous research. A major challenge faced was the lack of access to reliable technology.

Curricular issues, such as time and pressure to teach to standards, availability of resources, and valued knowledge were also identified in this study as in previous research. Finally, students' background and prior educational and technological experiences was shown to be a challenge teacher faced for incorporating online primary sources into their instruction.

ACCESS TO NECESSARY TECHNOLOGY

Past research has noted technological problems faced by teachers who tried to incorporate OPS in their classroom. Early studies showed that teachers' inexperience with technology and inability to troubleshoot technical problems prevented teachers from adopting Internet technology into their classroom. More recent studies suggest that teachers have become more experienced with technology and turn to the Internet for content more frequently than in the past (Doppen & Tesar, 2008). In the current study, the participants also faced lack of technology and had to make the most of their limited technology. Although teachers varied in their access to technology, all four teachers noted the technology available to them was insufficient.

Access to reliable hardware

Access to proper technology fits within the context domain of Zhao et al. (2002). A lack of necessary hardware, or even the perception of a lack of hardware, is a prime example of a first-order barrier technology use in the classroom. Each of the participant teachers reported having too little access to reliable computers and devices for their students to use. Observation data corroborated teachers' claim of insufficient access to technology, as three of the four teachers encountered some form of struggle when acquiring hardware needed for students to access the Internet.

This was especially true for Emily and Sarah, who taught in a school where computer access was particularly limited. There was a computer lab on campus, and teachers could reserve the lab for lessons. However, according to Emily, certain subjects, such as math and English/reading had priority over social studies and science for reserving the computer lab. This was especially the case during testing time, during which the computer lab was exclusively used for test preparation. Teachers also had access to a cart of laptops, referred to as "Computers on Wheels," or "COWs" which were shared among grade level teams. As such, access to the computers was limited. Because other history teachers were doing the same lesson, the available laptops were divided between five classrooms.

Only six of the laptops were available in Emily's class during the observation. The laptop fleet was also fairly old in terms of computers. I determined the Dell laptops to be about six or seven years old. These computers had been in use a number of years and had the expected wear and aging from multiple years of use by students. This made them unreliable. The laptops were only semi-portable, as their batteries could not hold a charge and had to remain near an electrical outlet so they could be plugged in. These laptops also took an extremely long time to boot, restart, or awake from hibernation. For this reason, Emily instructed the students not to turn off or log out of the laptops when they were done. The laptops were required to access the *Freedom: A Story of U.S.* (Gilder Lehrman Institute) application what was pre-installed on the class set of laptops. This application did not require an Internet connection, so students were able to browse the collection without having to be online. However, students were able to use documents, images, and other sources for their project, so an Internet connection was needed if they were going to utilize sources from outside of the application.

In no class period observed did students use all six available computers. As discussed earlier, mobile devices helped supplement the lack of school-provided computers. Most students used their own smartphones to complete the lesson. Emily was awarded a grant to buy iPad minis for her classroom. She was able to implement them any way she wanted, and unlike the laptops and other technology, she was not required to share them with other classrooms. However, she was only awarded four iPad Minis, so, as was the case with the laptops, only a small number of students were able to use iPads for their lesson. In her interview, she said that it would be great if she had a whole class set of iPads.

> They loved working with the iPad mini's that I got this year. I got four of them but I had to be a part of a program, get this. Go to another meeting every month. Do, you know, write four or five paragraphs on it [once a week, you know, to be a part of the online discussion. Just to get four little mini iPads which I don't mind doing the work to do and it's all a learning thing but I really think 20 iPad mini's would've been better that way you can facilitate the whole class. But that's just my pet peeve. (Emily, interview, May 5, 2014)

The lack of reliable computers hindered the ease at which teachers could execute Internet-infused lessons. As Sarah stated:

> I think the challenging thing is we don't do a lot of online – like as a class, don't do a lot of primary source reading because of the lack of technology – access to technology that I have as a teacher for my students… We don't do a lot of online stuff because I don't have access for them. I have pulled the computer on wheels. But it's a joke because they don't work. (Sarah, interview, January 16, 2015)

Citing specific technical issues with the laptops, she noted that they were old, "don't keep a charge," and took "forever to turn on." Because of the poor condition of the laptops, Sarah considered them a "joke," and did not use the COW in her class. During her interview, Sarah also described her experience at the school where she first taught, which had more technology than her current school. Even with comparably better technology at her former school, technology reliability remained a problem:

> My first school I was at in Louisiana had a lot of technology. We had a Promethian Whiteboard in every classroom; we had iPads for every student. It had so much funding. We had all this technology. Half the time, the iPads weren't working. We had the computer on wheels, which weren't very good, because they were usually broken. But we still had those. (Sarah, interview, January 16, 2015)

Access to technology in the schools of Erin and Susan was slightly better. Susan and Erin also worked in schools that were newer than that of Emily and Sarah, and therefore had better technology infrastructure in place. Erin explained to me that when the built the new school, the promise of better technology was a contributing factor to her decision to work at it (Erin, paraphrased conversation). Susan's school looked the most modern of all the school I observed and like Erin's school, it was built with computer networking in mind. While walking up to Susan's second story classroom, I noticed numerous wireless hubs built into the walls. Both Erin and Susan were able to reserve COW carts, providing a laptop computer to each student in the class period. Both schools' COW carts were loaded with more modern Dell laptops, which I determined to be about 2-3 years old. The COW carts themselves were also more useful than the COW cart I saw at Emily and Sarah's School. The carts in both Susan's and Erin's room were also more useful than what was available at Emily's school. The carts in Susan's classroom had printers and the cart in Erin's classroom had Wi-Fi signal boosters.

Although Erin and Susan had access to newer computers, and enough of them were supplied so each student may use one, this access was also limited. For both teachers, the laptops used by students were shared among different classrooms. In order for Susan to obtain the computers, she had to reserve them in advance. She explained:

> We have COW carts…they're netbooks. We share the cart and have to check it out pretty far in advance, especially if we want to use them for an extended period. (Susan, interview, January 22, 2015)

In order to justify her reservation of the COW cart, Susan was required to do additional planning on top of her normal lesson planning. When submitting her request to the media specialist at her school, Susan had to complete an additional form to explain the technology TEKs her lesson was addressing.

> I have my [lesson] plan, which outlines the objectives and time and what TEKS will be addressed. I have to have that and fill out an additional form for the media specialist. We need to write which technology TEKS we are hitting as well. All of that needs to be done when I put in a request to reserve the laptops. (Susan, interview, January 22, 2015)

Because the COWs are shared, both Susan and Erin ran into difficulties when attempting to reserve the COWs. In times of high demand (specifically, during times of standardized test preparation) the COWs were often not available, making planning difficult. For example, Susan had planned a lesson for me to observe in which students used the COW laptops to analyze primary sources from several websites. She had originally planned to do this lesson at the end of January, but through our email exchange, the difficulties obtaining the COW cart became apparent:

> Rob: Is the 28th/29th still good days for me to observe? I'd like to come out both days if possible. Just let me know what period(s) are best. (email correspondence, January 25, 2015)

> Susan: The 29th is actually going to be better. If you can come in from 1:45 - 3:30 that would be great. (email correspondence, January 26, 2015)

However, due to scheduling problems, Susan was not able to do her planned lesson on January 29th.

> Susan: We got behind this week because of unforeseen circumstances. We will not be able to do the primary source lesson I had planned. We have a common summative [assessment] that has to be completed. (Susan, email, January 28, 2015)

During the first week of February, Susan's school administered practice tests for the state standardized tests. Although Susan was not a teacher of a tested subject (as a

seventh-grade history teacher), the testing schedule affected all grade levels. The following week, I messaged Susan asking her when she would be able to do a lesson using the laptops. She responded:

> Susan: Let me get with my team and see where we will be by next week. I am sorry I just cannot give you a definitive answer, but let's shoot for next Thursday. I will let you know if something comes up (Susan, email, February 9, 2015)

The following week came, and again Susan faced problems accessing the laptops for her lesson:

> Susan: Hi, I cannot get technology this next week. When is the absolute last day you can observe? I put in for the technology, but I never had my request honored and now all of the carts are reserved. (Susan, email, February 15, 2015)

However, the reserved computers became available and Susan was able to seize the opportunity to use them:

> Susan: Hi, I was actually able to wrangle some computers for tomorrow. Can you come at 1:45 tomorrow? I am sorry for the short notice, but I jumped at the opportunity and this was the only one I found. (Susan, email, February 17, 2015)

To the survey question, Erin was the only teacher to report that her students didn't use computers or other technology themselves. In an open-ended question, she explained: "access to technology is often the barrier to student web-based work." (Erin, survey response). Erin's school had a computer lab, but as with other teachers, Erin's students didn't use the computer lab for history class. During a conversation before observation of her class, Erin explained that logistics of using the computer lab during a typical class period was not feasible: "getting students to and from the lab, getting them settled, getting them logged in—that takes too much time." (Erin, interview, May 7, 2015)

Access to reliable network

In addition to the lack of access to computers and other devices, data sources showed evidence of teacher struggles with accessing the Internet through available wireless networks. In order to access the Internet via computer or device, students and teachers must have a reliable network in place in their school. Each of the teachers' schools had a wireless network and each of the four teachers relied on a wireless connection for their students in order to complete their lessons. Interview and observation data revealed that three of the four teachers had experiences with an unreliable Wi-Fi connection.

During her lesson, Emily's students used a variety of devices requiring a wireless network connection including laptops, iPads, and personal smartphones. While observing her classroom, I did not notice any network problems. However, Emily had said in her interview that she had past problems with accessing the Wi-Fi network.

> a rat chewed through the wire broadcasting the wireless signal in my hall. So even though I had the four iPad Minis, I couldn't use them for 6 months until they fixed the wire. (Emily, interview, May 5, 2014)

Even though a wireless network was provided at her school, there was a lack of necessary maintenance needed to maintain the network infrastructure in case of damage. Because iPads require a wireless connection in order to function, her set of iPads went unused while the Wi-Fi network was down.

Access to a wireless network was essential to Sarah's lesson. I interviewed Sarah a few days before her planned lesson, and she expressed concern about accessing the network.

> In this room, there's no windows. It's like an evacuation room. It's like a vortex. I'm gonna hope that tomorrow they connect to the Internet on their phones. It's one of those things where I've had to have a lot of backup plans for lessons like that because they don't work out. (Sarah, interview, January 16, 2015)

Sarah had experienced difficulties in the past when attempting to use mobile devices in her classroom. Her classroom was located in the interior of the building, surrounded by other classrooms, reducing the strength of the cellular signals needed for her students to access the Internet. Her classroom was also far from a Wi-Fi access point, making the school's Wi-Fi signal weak in her room. Because of the uncertainty of accessing a wireless network, Sarah had planned alternative activities that did not require a network connection. During Sarah's lesson, I observed evidence supporting Sarah's concern with the weak signal in her classroom.

> After she instructs students to turn on their devices, she says "Let's see if your phones will work in this room." Sarah seems slightly concerned that students will have trouble accessing the document, because I assume, her trouble with Wi-Fi signal in the past. "If you you're having trouble, raise your hand." (Observation notes, Sarah's classroom, January 9, 2015)

Connectivity problems were not significant enough to prevent Sarah's planned lesson. However, Sarah was required to provide support throughout her lesson:

> I hear some students report the status of their signal. I hear one student call out: *I can't get connect.* Another says *I only have one bar.* Sarah walks around the room assisting students who are having difficulty connecting. (Observation notes, Sarah's classroom, January 9, 2015)

Susan and Erin both worked in newer schools with more reliable wireless infrastructure. Although Susan's classroom was situated centrally in her building (like Sarah's "vortex" classroom), the classroom was close to two Wi-Fi hubs in the hallway. Susan's students had no troubles with Internet access throughout her lesson. Some students in Erin's classroom did have weak signals despite the wireless signal boosters on the COWs.

> A student in the desk nearest the door, and furthest from the COW cart has trouble logging in. He raises his hand and tells Erin that he is having trouble logging in. Erin directs him to bring the laptop and sit in an empty desk that is close to the

> COW cart. Erin turns to me and tells me "that corner can be a dead zone." (Observation notes, Erin's classroom, May 22, 2015)

Support

While physical technological infrastructure is essential for teachers to teach with the Internet, Zhao et al., found that "human infrastructure" also contributed to the success of technology implementation. Human infrastructure refers to the support teachers have for learning to use technology and supporting them as they use it. This type of support varied for the teachers in this study, but was limited for each of them. Emily explained that at one time, her school had an instructional technologist who would assist with content-specific technology implementation:

> We had a really good technologist…about 2000 til 2005 who worked really close with the departments helping us align technological standards with our content standards. And she helped me a lot in terms of developing the curriculum, but since then it's just been trial and error. (Emily, interview, May 5, 2014)

Although her school still had an instructional technology specialist, recent changes limited the extent to which she could assist teachers with specific subject area needs. Emily explained:

> She coaches and does other things... and cover classes and stuff so they can't really do their jobs because [she is] doing other people's. (Emily, interview, May 5, 2014)

When that support ended, teachers were left on their own to incorporate technology. Instructional technology support was replaced with technology being taught as a separate subject. Emily explained how this affected students' use of technology for their core subjects:

> I think the kids have had a really hard time. They don't have the access that they used to have here because they took away our technologist and brought in a BIM (Business and Information Management) teacher. So now they learn BIM which is again that structured formal class where, 'Today we're going to learn how to do

> a PowerPoint. Today we're going to learn how to do an Excel Spreadsheet. Okay, but it really doesn't teach them how to integrate things. Okay, so I have this science project, what's the best way, what technology do I want? (Emily, interview May 5, 2014)

Susan also noted a lack of support at her school incorporating technology. Like I Emily's school, Susan's school had technology support in the form of "connecting to a printer, getting the projector working, or that sort of thing" (Susan, interview, January 22, 2015). I asked if she received much input for teaching with technology. She responded:

> No, we don't have anyone helping teachers teach with technology. A lot of teachers don't use a lot of technology. They aren't required to use technology if they don't want to. There are a group of teachers who I will share resources with and I will show them how to use [those resources]. But these teachers want to try technology because they are interested in it. They are using their own time to learn. (Susan, interview, January 22, 2015)

Susan, who held beliefs that it was important to incorporate technology, served to fill in for the lack of support for incorporating technology into teaching practices at her school.

CURRICULAR ALIGNMENT

As with previous studies on OPS in the classroom, the participants in this study faced barriers associated with required standards. Online resources for historical thinking often focus on a singular event or theme and require a lot of time to be spent on it. The breadth of information teachers must cover in a survey of history class allows little time to focus on any one particular event or period, thus making it difficult to incorporate time consuming historical thinking resources.

Teachers are required to create lessons and materials that will address state standards. These standards vary from grade to grade. Both Sarah and Susan taught Seventh Grade, which is the year Texas History is taught. Therefore, they were required to meet the TEKS standards for Texas History. While both teachers were able to find content from

websites that aligned with Texas history standards, both teachers noted that many sites they came across with good resources were focused on U.S. History in general. Susan explained that she could find many good activities using primary sources for U.S. history:

> It's more of American history. So I have to kinda reword questions and try to get it to where it – and try to make it where it's related to Texas somehow. I honestly feel like there's not a lot of resources that I like that are related to Texas. (Susan, interview, January 22, 2015)

Additionally, Susan felt that content was not age- appropriate for her students:

> I don't use anything with vulgar or racist language or images. I don' think their maturity level can, you know, handle some of that. They're still children and they can learn about that when they are older. Violence, too. I am careful with the more specific-the graphic- details of history. (Susan, interview, January 22, 2015)

Sarah echoed the complaint about the relative lack of online resources for Texas History:

> I personally, get frustrated because I think that there are not a lot of good reliable sites for Texas lesson plan ideas – there are a lot more available for U.S. History in general (Sarah, interview, January 16, 2015)

Many of the available resources have to do with broader U.S. History topics that are not emphasized in Seventh Grade. In a follow up email, Sarah provided a specific example of this issue:

> Most of the good activities are about wars. In Texas History we spend a day on the Civil War; a day on WWI; maybe two days on WWII. Which is insane. How do I teach those in one day? (Sarah, email, January 2015)

Although Texas State Standards involve Texas History in Seventh Grade, students are not tested on social studies for the state standardized test in seventh grade. Sarah explains how this affects her selection of lessons:

> I try to just do lessons that relate 'cause they're not tested over Texas history. That's the big issue. Like no one really cares about Texas history in the district because it's not tested. So as long as I talk about American history we're fine. (Sarah, interview, January 16, 2015)

Eighth grade U.S. history is a tested subject in Texas, so addressing eighth grade standards are higher stakes than seventh Grade. According to Susan and Sarah, there are many more online resources available for U.S. history. Although resources for U.S. history may be more plentiful online, using these resources in eighth Grade could also be met with difficulties due to standards. Because the standards are tested in eighth Grade, there is more pressure to teach these standards. Erin, who taught eighth Grade, explained the pressure to cover tested standards:

> Especially if you're a tested subject- we have I don't even know how many TEKS. We have so many TEKS, and within each TEKS, every TEK has 20 other things under it. There's just no time to get everything in the way that we want it to get in. (Erin, interview, May 7, 2015)

With the exception of Emily, whose lesson took a whole week, the teachers made the lessons to fit within one day. Sarah, Erin, and Susan each had introduced a new topic and had student submit a final product within the roughly 40-minute class period. Teachers noted that time influenced their decisions whether or not to use educational resources they found online. According to Sarah: "Most lesson plans on websites are geared to more advanced students and take several days." (Sarah email). Erin also felt that lessons that took too long would not work in her classes. On the topic of online resources for history, she said:

> Sometimes their sources great, but then the lesson is something that would take longer than 45 minutes, that's too open-ended for my kids to stay on track. (Erin, interview, May 7, 2015)

Time was also restricted by technology. Because of the shared nature of the laptops in Susan's class, she preferred to complete her lessons in a single class period because:

> You end up wasting a lot of time from day to day. If they are logging in and accessing their work- it is almost like they are starting over. Nothing gets saved on the laptops, so they save things to their folder on the server, which takes time

> away from the beginning and end of a period. All that adds up. (Susan, interview, January 22, 2015)

Erin also mentioned how time must be factored in when using computers in class.

> Sometimes it takes 15 minutes for all of them to log into the laptops to start with and get them all launched at the same time because of the bandwidth. (Erin, interview, May 7, 2015)

Because instructional time was limited, Erin was unable to use materials provided online. However, this did not make this did not mean that the resources had no value:

> We don't use a lot of their materials because their materials are set up for much longer class periods, but we pull the strategies from it. (Erin, interview, May 7, 2015)

TEACHER PERCEPTION AND ABILITY WITH DIVERSE STUDENT BACKGROUND

During interviews, teachers noted that they encountered difficulties when implementing primary sources due to their students' previous educational experiences, background, and abilities. Each participant brought up the fact that students do not come into middle school with a strong foundation of history education. Teachers also noted that many of their students enter their classes without having developed skills needed to investigate primary sources, including reading skills and critical thinking skills. Additionally, issues existed with certain parts of the student population, including students with limited English proficiency and with learning disabilities.

Previous history education

In Texas, the Texas Essential Knowledge and Skills (TEKS) standards provide explicit grade-by-grade standards for social studies in elementary, middle, and high school. However, social studies is not a tested subject on a state level until the eighth Grade. During interviews, each of the participants noted that their students were likely coming into their class with little background in history. Sarah, during her interview, summed up the reason

for this: "it's not tested in elementary school." Susan also explained that she believes students are entering middle school with minimal history education.

> I know they have Texas History in 4th Grade, but other than that, there isn't a lot of history in elementary school- history or social studies. It's really up to the elementary teachers deciding how much history they teach, but I don't believe it is a big part of the curriculum. (Susan, interview, January 22, 2015)

The extent to which social studies and history is taught in elementary schools is limited and cursory. As Erin explained, in elementary school:

> They get basic stuff, you know, about America: Colonial times, the Revolutionary War…Presidents like Washington, Lincoln. I don't think they are doing much reading or looking too in-depth with history. Other than 4th Grade Texas history- when they learn geography and early history of Texas up to the [Texas] revolution- I don't think they're getting much history in other grades any more. (Erin, interview, May 7, 2015)

Thus, students are not likely coming into middle school with a great deal of historical knowledge on which to build. Additionally, they are not getting experience with reading historical texts or primary sources.

> I honestly feel that the only time that they get primary sources is in history class. Maybe English class every now and then will work with primary sources. But I feel like most of that falls on history teachers. And if they don't know what a primary source is by seventh grade, that's a problem. And they don't know what the difference between primary and secondary sources are. And they sometimes can't identify them. (Sarah, interview, January 16, 2015)

Sarah had to spend time in the beginning of the year to had to spend time at the beginning of the year to familiarize her students with the concept of primary sources and how to identify them. Sarah explained her method for introducing primary sources:

> What helped at the beginning of the year is I brought in a bunch of different resources. And then we had primary resources. And I brought like actual primary resources from – I have some old IDs from eastern Germany. And we went through that and like passports from World War II. And I had to go around the room and identify what's primary and what's secondary. And they actually did really well once we went through the whole lesson of this is what's not a primary

> source. Once I went through the whole lesson and they were able to identify things, it was fine. (Sarah, Interview, January 16, 2015)

Emily also had to introduce the concept of primary sources at the beginning of the year. She told me about an activity using her personal items to introduce primary sources.

> I mean I do it as a personal way for the kids to get to know me at the beginning of the year. So,I get like this bag and I have pictures of me in the eighth grade on it and I put some of my report cards in it, I put my passport in it. And I put, you know, a letter or some other document or picture. And I give them this bag and say okay, tell me what kind of person do you think I am. So they get practice using the artifacts to develop an understanding. (Emily, interview, May 5, 2014)

Although teachers had to spend time differentiating between primary sources and secondary sources took time, neither of these teachers felt that students struggled with that skill. However, although students could identify primary sources, they do not readily understand the bias and opinion inherent in historical accounts. Emily told me: "they want to believe whoever they're reading at the time…it's really hard for them to decipher, I guess, truth from point of view. "(Emily, interview, May 5, 2014). She further explained this through an example lesson for which students read primary sources about the trial of Mary Surratt:

> They want to know what really happened, and they get very frustrated when you tell them you don't know. It's like, "Well Mrs. [Emily], was Mary Surratt guilty or innocent?" "Well I don't know." "Well why don't you know?" "Well what do you think?" "Well we read this and we think she's innocent but then we look at this and we think she's guilty". And I said, "Well me too." You know so they want a hero and they want a villain. (Emily, interview, May 5, 2014)

Reading abilities

Student reading abilities came up often during interviews and observations. Teachers mentioned that students' inability to read documents provided a barrier to teaching with primary sources. As Sarah said:

> I think the biggest challenge is time and the fact that these kids can't read – they have trouble reading. It's very challenging for primary sources. (Sarah, Interview, January 16, 2015)

As such, Sarah needed to provide support when teaching lessons that include a great deal of reading. She provided an example of this:

> I'm gonna do it next week with the [Texas] Constitution and see how that goes. It's been really hard in the past because – I mean, they get so overwhelmed with a bunch of words, especially words they don't know. So normally when we work with primary source documents, I sit over there under that little projector. And we read it together. And we highlight it together. We define words. We kinda annotate it to understand it. (Sarah, interview, January 16, 2015)

As an eighth grade teacher, Erin was responsible for preparing students for the state test for U.S. History. She explained guiding students with practice with reading primary sources:

> Here is the passage. What does the speaker mean by this? They're having to dig through it themselves unassisted. That's a real challenge. That's a real challenge. (Erin, interview, May 7, 2015)

I asked Erin about specific problems students have with when reading primary sources. She responded:

> Probably language, antiquated language, vocabulary that is above their acquisition level. Because we're dealing with sources from the 1600s and 1700s and the 1800s, their phrases are not the same as what we use today. (Erin, interview, May 7, 2015)

When reading excerpts from sources, students encounter unfamiliar vocabulary that is either "above their acquisition level," or is antiquated and no longer widely used. In addition, Erin suggests that older styles in which people wrote can prove challenging for students to read. Describing the way that people who wrote in the past, she said:

> Because they had no TV and they had no Instagram, their prose is very… it's long-winded. Because most of them are lawyers, it's long-winded. It takes them forever to say anything, and so by the time we get there all of the vocabulary that the kid doesn't know, getting to the point is often a real challenge especially in testing situation. (Erin, interview, May 7, 2015)

Emily noted her students reading abilities. For one lesson, she uses Fredrick Douglas's autobiography and explained:

> Yeah, so I mean but he writes in, I mean, he writes at a very high level, and the kids, you know, they struggle with it. (Emily, interview, May 5, 2014)

Similarly, Erin explained that her students were required to read excerpts of difficult documents. To assist her students, Erin had to do additional work to make the text understandable to her students.

> I'm required to teach [the] Federalist papers. You have to break it down. You break it down, break it down, break it down, and you find the four sentences here that refer to this and the four sentences there that are good and exciting and refer to this. It's huge amounts of material to have to dig down through. (Erin, interview, May 7, 2015)

English Language Learners

Texas schools have a high English language learner population. This was the case in the district where Erin, Sarah, and Emily worked. While I did not hear Spanish being spoken within any classroom, I did hear Spanish being spoken extensively while waiting in the front office. For example, several parents came to the front office in order to either check their students out or to attend to some other issue with their child. The majority of these parents either spoke Spanish with the front office administrator or communicated through their child who translated for them. I also heard Spanish being frequently used by administration while speaking to students informally. From this experience, I gleaned that students were coming from homes where Spanish was spoken. The teacher participants corroborated this assumption. Erin explained:

> We're 88 percent Hispanic. Not all of those are ESL, but we're 88 percent Hispanic…We're 900 kids. I think we have about 180 that are identified ESL right now as far as those that have to be "TSL passed" because they've never passed a reading test in English. That group that significantly behind where they

> are supposed to be – we have 180 that qualify in that program. (Erin, interview, May 7, 2015)

Limited experience with English adds another layer of challenges to reading and analyzing primary sources. Sarah explained the difficulties encountered when trying to analyze a primary source document with students who are concurrently learning how to speak and read English:

> I think the ESL kids definitely struggle more. But I think this demographic at this school – they can't really read… I would have to probably spend three days on that same activity and model everything, go through the document with them. And we just don't have the time. Time is also a big issue with primary sources, especially if you have ESL classes. (Sarah, interview, January 16, 2015)

Sarah suggested I do the observation during her Pre-AP class, during which, the students were going to analyze the text of the Treaty of Guadeloupe-Hildalgo. I asked if she was going to do a similar lesson in her ESL class, to which she responded, "no." This was her rationale for not doing the lesson:

> For the activity we're doin' tomorrow [in the non-ESL class], I would have to probably spend three days on that same activity and model everything, go through the document with them. It's a struggle to keep the ESL class on schedule in the first place, so I can't take all that extra time. (Sarah, interview, January 16, 2015)

Erin recounted her previous experience with teaching ELL students, describing her school's former method for grouping ELL students together, which she found detrimental:

> We do have a sheltered class, where we have probably the 10 or 12 lowest that move together throughout the day. Last year they were homogeneous. They were all in together, and it was just those 12 that moved together. We found that was really destructive – not even helpful at all – because there are no peer mentors. There's nobody to help you translate. You have 12 kids that don't speak English, and now here's your teacher, talking about George Washington and blah-blah-blah… (Erin, interview, May 7, 2015)

In the "sheltered" ESL class period, an ESL specialist would often work in the classroom, providing assistance. Even though Erin felt that students performed better with

this method than simply distributing ESL students amongst different class periods, she explained that it was necessary to provide additional and individualized support:

> You do a lot of tutoring. You do a lot of small group tutoring, where you pull six or seven in and sit down with them one-on-one and have them tell you the story back to make sure that they understood what you said in the first place. A lot of them do it together. That's probably who I spend more time tutoring with after school. That's my group – my very shy, female, Hispanic, English second language. That's my little group. I just love them. I love spending time with them because I get to know them, whereas I don't get to know them in an overbearing class. Once I get to know them, they work harder for me. Yes, a lot of small group tutoring goes on. (Erin, interview May 7, 2015)

Erin felt that she needed to tutor her ESL students not only to help them with the content in the course, but also to enhance their confidence to participate in an "overbearing class." Unlike Sarah, having ESL students did not prevent her from doing lessons she did in other classes. However, Erin was required to additional planning and teaching outside of class time in order to ensure her ESL students could be successful in the history classroom.

Students' experience with technology

During interviews, each of the participants expressed her perception of students' experience with technology. Some similar perceptions were found among the participants. As previously stated, three of the four teachers at times utilized a BYOD policy that relied on students to bring their own smartphones. Erin was the only teacher who said she did not have lessons for which students used their smartphones. She would not consider a BYOD policy because she couldn't assume all students would have a smartphone, and those who didn't would be at a disadvantage with such a policy in place. According to her,

> Every single kid needs to have the same opportunity. Between my kid that's got a working Internet connection and a cell phone and whatever and my kid that has nothing – they need to have the same shot at being successful in my class… Requiring students to use their own technology-it's wrong, especially when you

> have a high poverty rate. We're 84 percent free lunch, so huge poverty rate. It's just not fair. It's just not fair. (Erin, interview, May 7, 2015)

She assumed that a large portion of her students lacked an internet connection at their home:

> 10 years ago we did a survey. We sent home to every single parent, and many parents responded. At that time we were running 10 percent. 10 percent had Internet at their house. We're a little bit more than that, but I would say it's probably in about the 30 percent range. (Erin, interview, May 7, 2015)

Whether or not Erin's assumptions were accurate, they impacted her decision regarding student technology use, especially outside of school:

> I have to assume that with my students they're going to go home, and they don't have the Internet. They don't have a working connection…Every single kid needs to have the same opportunity. (Erin, interview, May 7, 2015)

I asked if she thought student smartphone ownership could make any impact on her decisions about technology use by students outside of the classroom. She responded:

> the smart phones only work where there is wireless access. They may not have wireless access at their house, so their smart phone might work perfectly here in the building or at Starbucks or a McDonald's, but not at their house. (Erin, interview, May 7, 2015)

She continued to explain her decision to keep research-related work within school because it was unfair with the population she was teaching:

> I'm absolutely against it. So next week and seventh-grade classes, we have four days of the Internet, where every kid gets to research in class and get their presentations prepared. They have the same opportunities. (Erin, interview, May 7, 2015)

For the sake of equity, Erin believed that the only assumptions she could make about her students' access and experience with technology is what she knew inside the classroom. Emily and Sarah taught at a school in the same district as Erin with similar demographics. Interestingly, Emily and Sarah held much different assumptions about their

students' use of smartphones. During her interview, Sarah said that "most of these kids have smartphones" and later went on to explain:

> These kids are like born with a cell phone in their hands. I feel like I need to keep up with the technology because of that. (Sarah, interview, January 16, 2015)

Emily shared a similar sentiment about her students' smart phone ownership and use, as well as the drive to incorporate the technology based on that belief:

> They [students] use phones all the time. I want to be a better phone person because they're really good at that. (Emily, interview, May 5, 2014).

Contrary to Erin's beliefs, Emily believed that her students have smartphones and are so accustomed to using them, that she had a desire to "be a better phone person" to keep up with the skills of her students. Like Emily, Sarah also believed that her students were proficient users of smartphones and the devices are an integral part of the lives of her students. While these perceptions contradict Erin's assumption that this population of students were not likely to have phones, Sarah did note that not all of her students have a smartphone:

> No, not all of 'em do. Anytime we do work with [smartphones] in class, it's like group work or partner work. Someone in the group is gonna have a smartphone (Sarah, interview, January 16, 2015)

By having students work in pairs, Sarah was able to incorporate student smartphone use despite the fact that not every student had a smartphone. It was also evident that Emily had assumptions that her students had access to technology outside of school, as she explained her use of a class web page intended to be used by students outside of their time in class:

> I have a class web page that kids can go to, to get the day's lessons, videos. I upload my PowerPoints there, their homework, everything, so they don't need me if they're absent or out. They can also make up quizzes, take tests again, play games to review, all that is there. (Emily, interview, May 5, 2014).

Susan, who taught at a largely suburban district, had different taught to a different demographic than the other three teachers. Susan's district had much fewer students on free or reduced lunch, suggesting a higher socioeconomic status. Susan's district had a BYOD policy in place for two years.

> The district sent out a notice to parents, so parents know about the BYOD policy. Almost all the kids have [smart]phones… A lot of the kids have better phones than I have. (Susan, interview, January 22, 2015)

Like Sarah and Emily, Susan assumed students had access to technology and wanted to take advantage of the affordances of student-owned smartphones. However, while these teachers held a belief that students generally use digital technology, they suggested that experience using technology did not translate to the ability to use that technology to learn. As Susan noted:

> They all have smartphones, they have Xboxes. They use Facebook and Snapchat, some use Twitter, and they can get on the Internet. They use technology every day. But they don't use it for academic or real work. (Susan, interview, January 22, 2015)

Emily explained how some technology skills were taught in her school. However, technology was taught as its own subject as an elective class. Application of technology in core subjects was not taught:

> I mean, I think the kids have had a really hard time. They don't have the access that they used to have here because they took away our [instructional] technologist and brought in a BIM [business information management] teacher. So now they learn BIM which is again that structured formal class where, 'Today we're going to learn how to do a PowerPoint. Today we're going to learn how to do an Excel Spreadsheet. Okay, but it really doesn't teach them how to integrate things. (Emily, interview, May 5, 2014)

Susan described a similar problem. In her school, students learned technology as a separate subject, but technology integration into core subjects was not emphasized:

> they learn basic stuff like typing. They'll learn how to us the Google [Classroom Tools], for presentations. It's a lot of focus on writing for, you know, essays or reports. It's good that they are learning that, but to me, it isn't much different than the old typewriting classes. (Susan, interview, January 22, 2015)

Teacher modifications

Each teacher reported having used teacher materials from these websites in some manner. Due to time and curricular restraints, teachers found it difficult to fit the use of these resources into their teaching. However, teachers were still able to use resources by making modifications to them. All teachers reported having to modify these lessons to better suit their contextual restraints and educational purposes. For example, Sarah used resources from the National Archives for a lesson that was to be taught in a U.S. History course. However, because she taught Texas history, she had to modify them to be relevant to Texas history, rather than U.S. History. Sarah, who had admitted not being well-versed in Texas history, reported searching for Texas lessons, but had difficulty. While she did have a preferred source for both content and lesson plans that aligned with her subject area (UNT), she explained that she still had to modify them for her students to use:

> I have to do a lot for lesson planning and primary sources, but this is really the only site I like that deals with Texas History. The reason I like this site is because it's user friendly for myself and my students. Also, they provide sample lessons that are realistic for my schools demographics or they can be easily modified to suit the needs of my kids. (Sarah, email, January 22, 2015)

Sarah considered the sample lessons provided by many organizations to be unrealistic to use with her middle school students, so preferred sites that provided content that was appropriate for her students or could be modified to work with her students. Erin also felt that suggested lessons offered did not seem feasible for use in her classroom. However, it was not that the level of content was too advanced for the students, rather, the time needed to do the activities was not appropriate for her schedule. When discussing

History Alive, a resource she reported using, Erin said: "We don't use a lot of their materials because their materials are set up for much longer class periods, but we pull the strategies from it." (Erin, interview, May 7, 2015)

Like Sarah, Erin valued the quality of the content from her preferred sites. I asked Erin if she was able to make changes to resources she finds to use in her classroom. She responded:

> That happens. You know what works and doesn't work in your class. You find a lesson on a good topic with a good activity, but it expects too much from the students or might work in a perfect bubble. (Erin, interview, May 7, 2015)

Susan did not mention in her interview that she modified resources. However, her observed lesson showed how she used available resources to meet her instructional needs. She created a PowerPoint that students accessed containing the instructions and linking to resources for the lesson:

> The PowerPoint is available to the students. They are able to download it to their laptop, or simply view it in their browser. On the PowerPoint, there is a slide with a graphic title "H.S.I. Historical Scene Investigation." There is a slide with the problem (the "case"), and a slide for each "suspect." Each is shortly described and has some leading questions. (Observation notes, Susan's classroom, February 18, 2015)

The PowerPoint provided the structures and guidance for the lesson. The students were instructed to link to multiple resources to complete the activity:

> There is a link to resources related to each suspect: Windmill link: Secondary source giving a short description of windmills that were used in the U.S. during this time period. There is also a primary source image of a windmill in the late 1800s. Barbed wire link 1: an image of the patent for "Wire-fences" by J.F. Glidden. Image is from Archives.gov Link 2: image of a cattle ranch ca. 1900 from the Library of Congress American Memory collection. Railroad link: a short description on the growth of the railroad and it's financing in the U.S. with an image of an advertisement for railroad stock from the late 1800s. This is a Gilder Lehrman collection, and there are also links to related topics on the transcontinental railroad and development of the West. (Observation notes, Susan's classroom, February 18, 2015)

Although Susan found educational resources online, she utilized only specific images from these resources. The value of these resources were the primary sources contained therein, rather than the educational materials created by the institutions.

Summary of second theme

As with previous research, the current study found a number of obstacles teachers had to overcome in order to incorporate technology in the classroom. The obstacles included access to and reliability of technology. As with previous research, the teachers noted that time restraints made in-depth investigation using primary sources difficult. Student background including lack of history education and experience with primary source required teachers introduce these concepts to students. Reading skills, especially with outdated vocabulary and language, were an issue as well. Many of the students in these teachers' classrooms were English Language Learners, and teachers noted how addressing the needs of that population adds further complexities to reading and understanding. Finally, Texas history teachers reported that online teacher resources have an emphasis on materials for U.S. History, while finding state-specific history resources was more difficult. Despite these barriers however, teachers made modifications and used what was available to them to make resources usable in their classroom.

Theme three: Developing skills in students

The previous theme addressed outlined the barriers that teachers faced while trying to incorporate OPS and other Internet tools into their teaching. The final theme relates to the previous one in that it highlights how teachers addressed the experiential barriers of their students. Through teaching history, teachers promoted the development of a variety of skills they thought were important for students. This theme contains two subthemes. The

subtheme sub theme that emerged involved the participant teachers' beliefs about of teaching history and how that influenced their approaches. The second subtheme involved student skills that were addressed by teachers through their instruction.

BELIEFS ABOUT TEACHING HISTORY

Through discussions with participant teachers, I learned about their background with teaching and beliefs about history education. Each of the four teachers showed commitment to education and history and social studies education. Both Emily and Erin were the chairs of the social studies department in their schools. They were also both members of the National Council for the Social Studies and Texas Council for the Social Studies and Erin held a leadership position at the latter. Susan was not in a leadership position at her school, but following the study, she had informed me that she accepted a district-level position for the social studies curriculum.

Sarah had only been teaching two years, but was a student of history and believed that history was an important subject for students. According to her: "Social studies and general history is probably one of the more important things that they need to learn" (Sarah, interview, January 16, 2015). She believed that it was necessary for students to make connections to the past:

> I think the biggest thing is trying to make a connection with the past… Right now, especially like this age, it's like what's important is what's in front of them. They can't grasp it. They have no sense of time. They have no sense of empathy for the past. I feel like it's important for them to make that connection. If I can make them have a connection with it, I feel it would go a long way. (Sarah, interview, January 16, 2015)

Teachers believed that learning history was important because history encompasses other disciplines. Erin explained her belief that:

> Learning history is more important than any other discipline and is truly the only discipline in which all the others can be taught as well. (Erin, Survey response).

Like Sarah and Erin, Emily found that history was more important than merely learning subject content, but also that history is important for broader learning:

> Learning history teaches us who we can be - the good, the bad, and the ugly sides of humanity, government, social order, culture, economics, science - everything. (Emily, survey response)

Emily felt that learning social studies and history was so connected to student learning in other disciplines that she felt a poor social studies education had negative impacts on student success:

> Sadly, with educational reform has come a demise in emphasis over the social sciences which I believe has contributed I the overall decline of student success in the other disciplines. (Emily, survey response)

Beyond learning history for the purposes of school, teachers also believed that it was essential for student to learn history in order to be responsible citizens. Emily explained: "We are first and foremost citizens of our communities, our nations, and our world." (Emily, survey response). She continued:

> The entire purpose of public education, at least in the United States, was to raise an informed citizenry who could hold a republic responsible for its actions. (Emily, survey response)

Erin echoed this sentiment specific to history education:

> We don't all grow up to be scientists and mathematicians, but we do all grow up to be members of our communities. Teaching history in schools today helps us grow to be the people we are meant to be in those communities - the writers, the inventors, the teachers, firemen, parents. (Erin, survey response)

Similar to Emily, and Erin, Sarah felt that education, specifically that in social studies, would help prepare students for their adult life.

> … aspects of social studies like the civics part of it and things like that, I feel like those are things that they need to know, especially when they get out in the real world. (Sarah, survey response)

Susan felt that history was important for establishing an identity and to learn from the mistakes of the past, and by doing so students develop decision-making skills:

> History is important because students are given the opportunity to learn from the mistakes of others. History helps us to establish our identity as well. Students need to see the value of good decision-making and the consequences of poor decisions. We not only learn about others when we study history, we learn about ourselves. (Susan, survey response)

Emily expanded on the notion of teaching history to inform citizenry within students. To her, teaching history gave her an opportunity not only to highlight the responsibilities of citizenship, but the rights associated with it as well.

> Do I think every day I'm turning my children into citizens? Positive citizens? I hope so. Well I try to get them to rebel a little bit. I try to get them to understand that, yes, there are responsibilities, but there are also rights. But in public schools everyone, is going to talk about responsibilities more than they are rights. (Emily, interview, May 5, 2014)

PRIMARY SOURCES TO SUPPORT HISTORY EDUCATION

The Texas Essential Knowledge and Skills (TEKS) standard for eighth grade social studies require students to demonstrate the ability to analyze primary sources. Primary source use was therefore integrated into instruction as part of standardized test preparation:

> We will use a primary source probably once a week. We see that as part of their skill-building. Whether it's a question on our Wednesday 'Shooting for the STAARs' with a primary source in it, or it's a Thursday: "We're going to read George Hughes with the Boston Tea Party," there will be a primary source introduced at least once a week. Whether it's Abraham Lincoln's inaugural address, or 'These are all required TEKS,' things that the kids have to know. (Erin, interview, May 7, 2015)

To practice for primary source analysis in standardized testing, teachers use Document Based Questions (DBQs). DBQs are a kind of comprehension test for which a student is given a primary source document and answers questions related to that

document. Instead of simply giving students fixed questions to answer, Emily explained that she uses DBQs as a way to have a deeper discussion about the document.

> Of course, we use DBQ's but we've kind of, I've kind of spun off DBQ's because, they need to be able to read a document first and answer some spiraling questions about it. So that's kind of what I've been focusing this year. (Emily, interview, May 5, 2014)

Teachers did not use primary sources solely due to pressures to meet state standards and students' success on state tests. Teachers believed that primary sources contributed to learning history. Sarah spoke to the purpose of primary sources as a way to uncover and verify events of the past:

> I use them – like I tell the kids it's kinda like a key to the past –it's a way that historians try to figure out the truth of what happened. Sometimes when we use primary sources, we almost act as detectives. We try to unlock the map of what's happening in that point in time. I always get the question like how do you know it happened? How do they know that? That's why we have primary sources. (Sarah, interview, January 16, 2015)

While she does not explicitly mention the concept of historical epistemology, she is explaining the work of historians and how it is we "know" what we know about history. Like Sarah, Erin noted exposing students to this concept by showing how primary sources validate a historical event:

> Sometimes your stories come off as tall tales, and they go "Wow, that's a good story, but I didn't really happen." So giving of validity to it. "Here's his letter that says it happened. This is what he experienced. These are his words, not my words because you can tell those are not my words." If you're going to tell the person's story, what better way to validate this whomping story that you just told them then to pullout it in their own words and say "This is what happened at the Boston tea party because this is what George Hughes said happened in his journal"? (Erin, interview, May 7, 2015)

According to Emily:

> (Teaching with primary sources) is the authentic way, I believe, of teaching history. Because it is the historical record. Putting live documents, photos, art,

> into the hands of kids is a great way to hook them in to the subject, to get them to understand the history's realm and it affects them. (Emily, interview, May 5, 2014)

Echoing other participants, Emily believed that primary sources provide authenticity to what is being taught in the classroom. In addition to providing a "historical record," Emily noted that providing real accounts and images, primary sources help "hook" students attention. Other teachers mentioned the ways in which primary sources grab student's attention. Continuing on her discussion of The Boston Tea Party lesson, Erin explained how the personal account as written by George Hughes provides a dramatic element to the telling of history:

> Like George is talking about dropping the tea. There's action involved. They walk quietly together. Every man is careful not to discover the identity of the person beside him. There's intrigue, and it's exciting. That's probably my favorite one to do all year, so that's the one I'm coming back to. I think we do the best job without one. (Erin, interview, May 7, 2015)

Sarah felt that primary sources provide context to a historical event. Like Erin, Sarah also noted how students connect with primary sources:

> But this is what happened; this is why. I feel like just having them know that certain events in history happen and how they happen and try to empathize with them and make connections with them – I mean, that's the main goal 'cause they don't care about Texas history or American history at this age. (Sarah, interview, January 16, 2015)

In addition to providing authentic, personal accounts, teachers mentioned how primary sources can show the complicated nature of history and historical figures. Sarah explained her approach with her students:

> I think so because I'm really – the first week of school I tell them I'm not gonna hide history from you. I'm gonna tell you the truth. I'm gonna show you images that you won't like. (Sarah, interview, January 16, 2015)

Emily described a lesson for which students made their own judgements on the Andrew Jackson presidency:

> One of my favorite lessons, I guess, you could say is when we look at Andrew Jackson, okay? We start out by showing the kids a slide show of political cartoons that were published when he became president. The snake, the king. We ask them to formulate an opinion of this person without reading anything, just by looking at these cartoons. And then we give them some background. We give them copies of the Treaty of [New Echota]. And we give them, not the whole treaty but segments of it. We give them copies of *Worcester vs Georgia*, parts of it, the rulings of that. Then we ask them to make a cartoon on his Indian policies. And then we show them the cartoon of him sitting on the chair, you know, where he's holding all the little Indians. (Emily, interview, May 5, 2014)

Andrew Jackson is an example of a controversial figure in U.S. history. Rather than simply explaining what makes him complicated, Emily used examples of his policy and contemporary portrayals of his presidency. Through these primary sources, students are able to form their own opinions of historical figures.

LITERACY SKILLS

As previously noted, in the middle grades, the only subjects for which there is state testing every year are math and reading. Because of this, preparing students for success in these subjects is important at the middle school level. An emphasis on developing reading skills was consistent among all participants' interviews and observations. Teachers used activities that were aimed at developing vocabulary and reading comprehension skills. Each participant started every class with a bell-ringer exercise aligned with history content. Emily and Sarah started each class with an activity with 5 vocabulary words related to the week's topic.

> As students sit, they are expected to complete the "bell-ringer." It is obvious that this is daily routine, as many students immediately start on it upon entering the room. 5 vocabulary words are displayed on the overhead with their definition. Students spend some time writing down the words and definitions. While students are working I ask Emily if the students do this every day. She explains that there are 5 new words every week, and they do a different activity with the words every day. (Observation notes, Emily's classroom, May 26, 2014)

The bell-ringer procedure was done in seventh grade as well. AS in Emily's class, each day's bell-ringer activity involved five vocabulary words for the week.

> Sarah is starting a new lesson today, but before she starts, she does "bell-ringer" activity similar to Emily. Bell-ringers are activities around 5 vocabulary words. This reminds me that teaching is very "reading" focused. The words are from the context of the weeks content, but the value of the words seems to be practicing the vocabulary word, not necessarily why these terms are related to history subject matter. Bell-ringer words: *surveillance, temperance, terrain, transport, unanimous,* and written in both English and again in Spanish on the front board. (Observation notes, Sarah's classroom, January 9, 2015)

Both Susan and Erin also started their classes with a short bell-ringer exercise intended for developing literacy skills. The warm up activities in their classes were reading comprehension exercises requiring students to read short passages and answer questions on them.

> I know the topic today is going to be about ranching in Texas, and the bellringer activity is requires students to read a short journal passage written by a girl who living on a ranch. Students are tasked with writing a "gist" statement summarizing the excerpt. There are also four multiple choice answers… Susan has one student from each group share their summary. After the students share, Susan approaches the board and ask the class which of the multiple choice answers they could eliminate. By doing this, it is obvious she is trying to help them practice test taking skills, specifically reading comprehension. (Observation notes, Susan's classroom, February 18, 2015)

Similarly, Erin's classes began with a written passage projected on the screen at the front of the class. The passage was a description of the Holocaust, as the lesson for the day involved accounts of Holocaust survivors. Students read the passage and answered questions on worksheet. As with the other bell-ringer activities, Erin's emphasized reading skills similar to what would be used in a testing situation:

> On the worksheet, there are guiding questions. These are basic reading comprehension type questions about the content they are about to read. Erin tells me before class that this period is better at "scanning" than her other classes. By this she meant that this class is generally better at finding the answers to questions

> like this by quickly reading through the material. (Observation notes, Erin's classroom, May 22, 2015)

A number of reading strategies came up during interviews and observations. These strategies were taught to students not only to read, but to help them understand primary sources as well. For example, Erin described the technique students learn for analyzing primary sources:

> We're looking for the speaker or the artist or the author because they do it for pictures, for cartoons, and for quotes. Those are the three things that they use the DIP strategy for. So you're looking for the author's point of view, the author's value judgment. What does he think about this? Is that right? Is it wrong? Is it good or bad? Is it important or unimportant? (Erin, interview, May 7, 2015)

The DIP strategy involved reading comprehension and using prior knowledge to put a document into historical context. Erin summarized the strategy for me:

> So when they get a primary source on a test, they look for the details and underline the keywords as their details. They will look for the prime knowledge. That's the P-part. So they list the things that they already know about these things, these keywords. What do they already know from class? Then they look for the inference. The inference is "The speaker believes that…" And then they fill in that word stem. "The speaker believes that slavery is bad." They have to put a value word on their inference. (Erin, interview, May 7, 2015)

Susan described a strategy used in her school's reading and language arts courses that was also applied to analyzing primary sources in history class:

> When kids are reading longer excerpts of documents, we use the SOAPS approach. The students are looking for the speaker, the occasion, the audience, the purpose, and the subject. We use that model in social studies, we start in 6th Grade and build on in through seventh and eighth Grade. It's a district-wide curriculum that is used in the middle schools and is focused on developing literacy in social studies. (Susan, interview, January 22, 2015)

Although each of the participants were teaching history classes, they are tasked with developing literacy skills in their teaching. By having students work with primary sources, teachers were able to incorporate subject area content and concurrently promote historical thinking and reading skills.

TECHNOLOGY SKILLS

The previously mentioned sets of skills, while not all specific to the subject of history, are all associated with academics. Teachers in this study also acknowledged the importance of students developing technology skills. There was evidence of teachers using history class to expose students to technology and provide opportunities to gain experience with it. Teachers felt that technology wasn't just important, but in some ways crucial to the learning process. For example, Sarah told me: "I kinda have to keep up with the technology because I feel like they don't learn unless technology is involved." (Sarah, interview, January 16, 2015). Emily explained that her students "use phones all the time. I want to be a better phone person because they're really good at that." (Emily, interview, May 5, 2014)

As stated earlier, three of the four teachers (Emily, Sarah, Erin) noted their students differing backgrounds and access to technology. Emily and Sarah knew that not all of their students had smartphones, and might not have access or experience with computers at home. Erin said that she had to assume that her students did not have internet access at home. Susan (whose school's population were of a generally higher SES) noted that she knew that the majority of her students had a great deal of experience with technology. She assumed they made extensive use of mobile phones, video game consoles, and social media, but they lacked skills for "academic" uses of technology. Working from this assumption, Susan devoted instructional time to teaching students basic skills:

> I have to take time in the beginning of the year to teach them how to save a document or add an attachment to an email, things they'll need to know academically or professionally. (Susan, interview, January 22, 2015)

Additionally, she would make herself available outside of class hours to assist students with computer-based assignments:

> The school has a computer lab that is open before and after school and during lunch. I sometimes come early and stay late to hold my own labs. (Susan, interview, January 22, 2015)

Susan explained that she mainly took care of this as a way to frontload the technological skills the students would need to complete the tasks in her class. I observed her class towards the end of the year, so she was not actively training students in technology, however continued to make herself available at times in case students needed to make up work that they couldn't do at school.

> I don't know what they are using at home. They have computers, but they might not have Google Chrome and it might be hard for them to access Google Classroom. (Susan, interview, January 22, 2015)

During observations, there was evidence of Susan assisting her students with using technology.

> As the students start to work, Susan begins to walk around the classroom, moving from table to table. She is helping some students with technical tasks such as downloading materials and 'unlocking' the worksheets (Microsoft Word) files to so that the students may edit them. Susan also addresses a couple of questions about the task itself but it spending more of her time assisting students with technology-related questions. (Observation notes, Susan's classroom, February 18, 2015)

This was the case for each of the other teachers as well. Through troubleshooting technology issues during lessons, teachers promoted general technology skills. This situation in Erin's class shows an example of such an interaction:

> A student, holding her laptop, comes up to Erin's desk. The student is struggling to connect to the wireless network. I overhear Erin guiding the student to the network settings and see her pointing at the screen of the laptop as the student follows the instructions. Student says: "you learn something new every day." Erin says in a sarcastic tone: "that's what I'm here for to validate my life choices." (Observation notes, Erin's classroom, May 22, 2015)

There was a lot of activity in Emily's classroom during her lesson. Students were having interactions between one another, as well as with Emily, who moved around the

room at times, but mainly stayed at her desk as students freely came to her with issues questions about the assignment. Emily also frequently assisted with student technology questions.

> Students are moving around the room, and come up to Emily as they have questions. Students are asking for specifics about the lesson, but also are being assisted with technology issues. Because the students need printed copies of images, Emily helps them either email the images to her email account so she can print them from her in-class computer, or email images to themselves so they can print them out at the computer lab. (Observation notes, Emily's classroom, May 26, 2014)

SUMMARY OF THIRD THEME

The teachers in this study believed that teaching history was important for reasons beyond the acquisition of subject area content. Teachers felt that teaching with primary sources provided validity in their instruction by offering personal accounts and added complexity to the narrative of history. Teachers also emphasized the importance of history education for developing more universal skills that will be applicable to facets outside of the history classroom, such as critical thinking and literacy. Additionally, teachers emphasized the importance of incorporating technology into their teaching not only as a way to teach content, but to develop student skills and experience with using technology for academic and professional reasons.

CHAPTER 5: DISCUSSION

The current study investigated four teachers' experiences incorporating technology into their classrooms. The research question guiding this project was: *How do participating teachers use online primary sources and related tools in their instruction to promote historical thinking?* The sub-questions were: *What specific tools/resources do teachers use and what elements of those tools do they find useful? How do external factors influence the use of OPS? How do internal factors (teacher characteristics) influence successful use of OPS?* Data were collected through teacher interviews and classroom observations.

Analysis of the interview and observation data yielded three themes. The first was how technology was used in the middle grades history classroom. The second theme related to challenges teachers encountered when trying to use online primary sources to promote historical thinking. The third theme explained how teachers' pedagogical preferences were displayed through skills they promoted in the classroom.

In order to understand the implication of the above three themes, it is important to consider the works of Zhao et al. (2002) who suggested that technology implementation in a classroom can be viewed as the interaction of three separate domains and the interactions between them. The three domains are: innovator, innovation and context. The innovator domain refers to the classroom teacher, who implements the instruction and related technology. The innovation domain is the new instructional tool or approach which the innovator implements (e.g., online primary sources and related tools). The context domain refers to the environment (school/classroom) in which the innovator implements the innovation. As the teacher is the most influential agent of technology incorporation, it is important to investigate the interaction between the innovator domain and the other two. This can be done by using the work of Ertmer (1999) to investigate the relation between

extrinsic (first-order) and intrinsic (second-order) factors affecting teachers' implementation of technology into the classroom.

This chapter is organized in to three sections. In the first section I will detail four findings that emerged from the themes in Chapter 4 to address the research question of this study. Next, I will discuss the implications of the findings of this study. Finally, I will provide a conclusion and suggest areas for further research.

Findings

Analysis of the results of this study yielded four findings. First, while teachers in this study used primary sources to enrich their instruction, observations only provided evidence of rudimentary historical thinking skills being used by students. Second, teachers' selection of instructional materials was shaped by both contextual limitations and internal decisions. Third, student background, and teachers' perception thereof, can add to the complexity of promoting historical thinking skills with online primary resources. Finally, teachers' ability to adapt to barriers was the key factor to overcoming them.

FINDING ONE - RUDIMENTARY DEVELOPMENT OF HISTORICAL THINKING CONCEPTS IN MIDDLE GRADES.

The purpose of this study was to see how participating middle school teachers used online primary sources to promote historical thinking skills with their students. While there is evidence that promotion of historical thinking is possible for students of this age, the current study only provided evidence of rudimentary historical thinking skills being used by students.

Teachers in this study (Emily, Sarah, Susan, Erin) noted benefits of using primary sources in their instruction. For example, according to Emily, by reading or seeing sources from the time period they are studying, students are provided with a real account, or

"historical record" from the period. Both Sarah and Erin also noted the value of primary sources to provide evidence that events did in fact take place. This was important for providing validity to the narrative of history being taught. Although corroboration is a historical thinking skill as defined by Sam Weinberg, corroboration in historical thinking is to be used by students to defend their own conclusions when conducting historical inquiry. Sarah mentioned that primary sources support student empathy when learning about the past. From her description, however, she is not aligning with the concept of *historical empathy* (Foster & Yeager, 1998), that is, seeing historical events through contemporary context. Rather, she wants her students to empathize with people they learn about by connecting their personal experience to those they learn about. By making connections, she believes her students will "care" more about history. Erin explained how she uses primary sources surrounding the Boston Tea Party to provide depth to the event through personal accounts and details. Again, primary sources are used to enhance a story that supports a fixed truth, and does not require students to actively construct an interpretation of history. There was evidence of student analyzing primary sources by answering guided questions posed by the teacher or through a worksheet. This required students to source the document and identify the significance of it, both of which are skills needed when thinking historically (VanSledright, 2004). However, students were not comparing differing accounts or pulling from multiple perspectives to create an understanding. Instead, students were viewing a single document to reach a correct answer.

Although the above examples of primary source use fall short of historical thinking, teachers did implement primary sources aligned with the literature on historical thinking. By using accounts of ordinary people, both Sarah and Erin are showing students that history is shaped by more than a "few key actors" (VanSledright, 2002). Additionally, by providing real accounts, Erin intended to show students how we know what we know about

history, fitting with the epistemological foundation of historical thinking explained by Peter Seixas (1996). Sarah explained that she doesn't "hide history" from students, and she tells them that they are going to "see some things that they don't like." In this way, Sarah hoped to add complexity to the dominant narrative of history (VanSledright, 2010). While not observed, Emily told about favorite lessons of hers during which students had to form an opinion of Andrew Jackson's presidency and the story of Pocahontas. In both lessons, students were to use a number of primary sources in order to make a judgement and support their claim. In these lessons, students encountered the open nature of history and were required to use decision making skills involved with the work of historians.

Teachers in this study described and displayed use of the Internet to search for and gather multimedia for existing lessons. Hammond and Manfra (2009) referred to this type of behavior as "low level" technology integration. While the Internet provides access to a great deal of materials and made it easier to find those materials, there is little impact on traditional instructional practices. The implementation of the sources by teachers was controlled by the teachers and not student-directed. In the two seventh grade classes, the teachers had complete control over the resources: Sarah's students answered questions about a single document and Susan curated several primary sources for students to use as they answer guided questions. For the observed lessons of Erin and Emily, students had freedom to look for primary sources on their own. Emily's lesson required students to describe the primary source and how they felt it applied to the concept of freedom, and Erin had students learning about victims of the holocaust by viewing images and listening to oral accounts. In both situations, students had agency to work with primary sources of their choice, but were only required to give cursory explanations of them.

Internet-connected devices, including laptops, student-owned smartphones, and tablets, afforded students the ability to access primary sources and materials required to

complete their lessons. However, using technology doesn't guarantee constructivist learning such as historical thinking (Hammond & Manfra, 2009).

FINDING TWO - SELECTION OF TOOLS AND TECHNIQUES SHAPED BY INTERNAL AND EXTERNAL FACTORS

In each classroom I observed, I did not witness any students or teachers using textbooks. All four teachers reported the preference of avoiding textbook use in their instruction. At the time of data collection, the standards for history had just been revised, and schools had not yet purchased new textbooks. Whether because of teacher preference or necessity, the teachers used external resources which they found, rather than curriculum provided to them. Teachers were responsible for finding resources on their own, and these largely came from the Internet. While teachers had the freedom to choose their own resources, they were limited by contextual restraints.

At a general level, teachers were limited to lesson topics within their course: eighth grade teachers taught U.S. history lessons and seventh grade teachers were limited to topics relevant to Texas history. More specifically, teachers were limited to topics within Texas state standards for their grade level and subject. In addition to limiting topics, standards also limited the amount of time that could be spent on any topic due to the amount of material needing to be covered within a school year. Standardized tests for reading also had an influence, as each teacher was required to have a bell-ringer exercise involving vocabulary or reading practice.

While curricular boundaries and standards shaped the appropriate topics for each class, other contextual factors influenced the instructional tools used by teachers. Access to technology use was limited. Lack of access to reliable hardware only allowed teachers to use resources that would work within those boundaries. Susan was able to make use of

the Google Classroom tools available in her district to aggregate lesson materials as well as allowing students to turn in their work. Emily, Sarah, and Erin did not have access to Google Classroom or a similar system, but used tools for learning management, the success of which was influenced by contextual factors. For example, Emily used a Facebook page for her class as a platform to extend classroom discussion and remind students of upcoming assignments but noted that not all of her students were active on the page, as Facebook use was not condoned by the school and access to it was blocked on campus.

Limited access to computers was a common barrier to teachers. To bypass this barrier, teachers had students use their smartphones in class. Sarah had her students use built-in capabilities of their own smartphones to help facilitate her lesson. She had students access materials by providing a QR code that students could scan with their phones and read the transcript of the treaty they were analyzing through the browsers on their phones. While not observed, Susan did explain that she would have students use their own smartphones to access materials through their phones' browsers. Using smartphones meant that teachers had to work within the limits of smartphone technology, and student use was limited to viewing text or images in their phones' browsers.

Informed by these contextual restraints, teachers made decisions about the resources and tools they used for instruction. Teachers' choice of resources were driven by a variety of factors. First, teachers drew from online collections that provided resources for their specific subject. Teachers also valued the authority and legitimacy of the organization of a resource, and drew from collections provided by state and national archives (such as NARA and Texas State Historical Archives), universities (such as Stanford), and well-known organizations (such as The Gilder Lehrman Institute). This aligns with Hicks, Doolittle, and Lee (2004) who found that teachers preferred well-established and notable digital resource centers. However, unlike the Hicks, et al. study, teachers in the current

study were not deterred by the time it took to find primary sources online. Teachers in the current study relied on the Internet to gather primary sources.

Both contextual limitations and internal pedagogical decisions influenced the types of tools teachers used, but it was the teachers' values that influenced the decision to incorporate technology at all. Other than the computerized record keeping done by teachers (i.e. for attendance and official grading), there were no requirements imposed upon teachers to use technology in their instruction. Although they were not obligated to do so, and despite contextual boundaries, participant teachers had students use technology to learn. The impetus for technology incorporation stemmed from beliefs teachers held about the value of using technology. Teachers held beliefs that it was essential to incorporate technology into their teaching. They believed that it helped facilitate teaching because it was something that students are familiar with and "need" to use. Teachers also noted that it was important to incorporate technology to give students experience with using technology for professional and academic purposes.

FINDING THREE – TEACHERS' PERCEPTION OF STUDENT BACKGROUND INFLUENCES TECHNOLOGY IMPLEMENTATION AND PROMOTION OF HISTORICAL THINKING

Sam Weinberg (2001) suggests that the skills involved with historical thinking are "unnatural" to students and need to be taught explicitly. Analyzing primary sources often requires reading unfamiliar vocabulary and an understanding of bias and point of view. Teachers in this study described struggles their students have when confronted with this new way of thinking and learning history. Teachers noted that history education was limited in the elementary grades, as it is not a state tested subject in those grades. Thus, students entered middle school without having a solid foundation of history education. Teachers also explained that students' experience with school texts is to take them as face

value- or as Emily said, students want to "believe everything they read." Determining bias or balancing differing points of view is a new concept for students. When encountering primary sources for the first time, middle school history students are not necessarily aware that primary sources should be treated any differently than secondary sources or textbook (Wineburg, 1991).

Students come from a variety of backgrounds and have different abilities. In this study, teachers noted aspects of student abilities and experiences that gave added complexity to developing historical thinking skills. For example, teachers noted students' reading ability as a common obstacle. Historical thinking requires an analytical reading of primary sources. If a student struggles with foundational reading skills, the advanced reading skills required for historical thinking will be much more difficult to grasp.

In this study, teachers used different approaches of instruction when dealing with different populations of students. All teachers insisted that I observe an honors (Pre-AP) section of their course. They believed that honors periods would provide a better example of students completing their work and using technology. I was able to observe both Pre-AP and mainstream classes for three of the four teachers, Sarah being the only exception. She was prevented from doing this type of lesson in her mainstream class because she believed they would not be able to complete it in a class period, and also felt that they wouldn't have the necessary smartphones. Emily modified her lesson for mainstream students, requiring the selection of fewer resources and simpler explanations. Neither Susan or Erin made major changes to their lessons for different classes. However, Susan needed to provide accommodations for students in SLD classes in the form of constant support during lessons and simplifying reading for students. Similarly, Erin described how she breaks a source down and provides definitions for words that might be difficult to students.

Three of the four teachers worked at school of high English Language Learning populations, Susan being the one exception. ELL students are concurrently learning how to read, write, and understand a new language while being introduced to new content in the history classroom. This adds a layer of difficulty that native English speakers do not have to face and an additional obstacle for teachers trying to promote historical thinking skills. This obstacle prevented Sarah from using her document analysis lesson in her class period with ELL students because she felt that it would take a prohibitively long amount of time to get through the reading required of the assignment. Erin was required to give additional instruction outside of normal class hours to tutor her ELL students.

Students' personal access to technology also influenced the implementation of online primary sources in teachers' classrooms. Students in Emily and Sarah's class were able to use their personal smartphones to participate in a technology-infused lesson that would otherwise not be possible with the available technology. Although I did not directly observe students in Susan's class use smartphones, Susan explained that she could rely on her students to have smartphones and they were used in her class weekly. Conversely, Erin held the assumption that a significant number of her students would not have access to either smartphones or technology at home. It was for this reason that she did not believe in using smartphones in her class and did not assign work requiring the internet or computers outside of school. While this did not prevent Erin from using online primary sources throughout the year, it did require her to access resources and print them out for student use, rather than the students accessing resources digitally.

Student background, whether real or perceived, can influence incorporation of online primary sources in middle school instruction as well as the promotion of historical thinking skills. While they did not completely prevent teachers from incorporating technology-supported history lessons, issues with ELL and SPED created additional

requirements for teachers in the form of support for reading and critical thinking. Technology background of students required additional support to use for academic purposes. Also, if student smartphones are used as a supplement to insufficient technology, there is an added requirement that students have these devices.

FINDING FOUR - ADAPTABILITY OF TEACHERS IS KEY FOR ADDRESSING EXTERNAL OBSTACLES TO TECHNOLOGY INCORPORATION

Teachers in this study were able to use online primary sources despite contextual barriers that they faced. Rather than deciding not to use technology, teachers in this study exhibited the ability to adapt their methods to incorporate technology in the history classroom.

Previous research on the use of online primary sources has highlighted barriers to technology incorporation due to the lack of access to necessary hardware. Insufficient access to technology and support is a common first order barrier (Ertmer, Addison, Lane, Ross, & Woods, 1999) that falls within the Context domain of the framework of Zhao et al. (2002). Each teacher in this study considered student access to technology as inadequate, limiting the ease of which they could use online resources. Data from observations confirmed teachers' claims of limited technology. Emily and Sarah had shared access to COWs, but the quality of the laptops was very poor. Additionally, wireless network access was spotty in Emily and Sarah's school. Students in Susan's and Erin's classes used higher quality laptops during observations, but did not always have consistent access to them, as other subjects had priority access over social studies.

However, limited access to technology did not prevent these teachers from using online resources in the classroom. Instead, teachers were able to supplement technology provided by the school. Despite their district's policy forbidding mobile phone use during

school hours, student-owned mobile devices served as an important supplement to the insufficient technology provided by Emily and Sarah's school. Sarah's observed lesson relied entirely on student mobile use to access the required primary source document. Both Susan and Erin had sufficient working laptops during observations, and all students were able to work on laptops. However, as laptops were not consistently available to Susan's class, she would take frequent advantage of her district's "BYOD" policy and reported having students use their devices on a weekly basis in her class.

Besides incorporating student owned smartphones, teachers also supplemented available technology with traditional methods. For example, Emily, Sarah, and Erin all had their students complete physical worksheets while viewing digital resources. Susan's class was the only class observed in which students completed and turned in work solely through digital means. However, even Susan explained that she often used printed versions of worksheets and resources when she was not able to use the COW in her class. This aligns with previous research that suggests that teachers' perceptions of the severity of an first-order barrier can be related to a teachers' underlying second-order barrier (Ertmer et al., 1999). These teachers held internal beliefs that technology was crucial to their instruction, so a lack of adequate technology was viewed as an obstacle, but not a deterrent.

Participant teachers made use of a variety of education resources from a number of organizations. However, self-contained educational activities available to teachers and students did not necessarily fit within contextual restraints of required standards, time, and available technology. Zhao, et al. note that the success of an innovation (technology tool) relies on the extent to which that innovation fits with existing practices and environment of the classroom and school. Although the innovations used by participant teachers were sometimes incongruent with the school context, teachers still made use of those resources by taking content from different resources on the Internet to incorporate them within their

own lessons. This aligns with previous research findings that teachers found value in internet resources, not necessarily for web-based instruction (such as learning modules or WebQuests), but rather as sources for specific images or media to be used (Liaw, 2010; Salinas et al., 2011). Teachers in this study mixed content from different places to execute their own lessons. For her lesson on the ending of the cattle drive, Susan had her students link to several different educational resources. However, she did not use the premade educational materials. Rather, she only used specific images from these websites to fit within a WebQuest-like lesson of her own design. Likewise, Sarah had students use their smartphones to access the National Archives website to view the transcript of the Treaty of Guadalupe Hidalgo. Sarah displayed an image of the original document on the overhead projector. Although the NARA website provided associated lesson materials for the Treaty, they were intended for a general U.S. history course. Sarah had to create her own document analysis sheet relevant to Texas history standards for students to use. Erin's students used laptops to access images, text, and audio from the United States Holocaust Museum's website, but completed their work on paper worksheets.

Emily followed an established lesson and materials from one collection, but she also modified the lesson requirements to make it more suitable to the abilities of students in certain class periods. Additionally, Emily had to adapt the lesson to fit within the limits of her available technology. The resource created by the Gilder Lehrman Institute was intended to run as a program on computers, or have students access it online. Because Emily did not have sufficient computers, she allowed students to use resources from sources of their own choosing.

The adaptability of these teachers when using technology echoes previous sentiment that teacher's pedagogical preferences drive how technology is incorporated into instruction (Ertmer, 2005; Hughes, 2005). Decisions on technology use ultimately falls to

the teacher. For participant teachers, the value they placed on technology as a learning tool allowed them to overcome lack of access and support provided by their schools.

Discussion

RESEARCH QUESTION

How do participating teachers use online primary sources and related tools in their instruction to promote historical thinking?

The findings of this study showed that middle school teachers used the Internet to gather instructional content and tools to promote rudimentary historical thinking in their instruction. Teachers indicated that they used primary sources to provide evidence of historical events through personal accounts. While there was evidence of teachers using online primary sources in ways that align with concepts of historical thinking, use was largely limited to supporting passive knowledge transfer and cursory document analysis. The confluence of teacher's pedagogical beliefs, perceptions of students' ability, and contextual constraints limited student-led inquiry in the history classroom.

What specific tools/resources do teachers use and what elements of those tools do they find useful?

Teachers used a variety of hardware and Internet resources during their instruction. Teachers had preferences for certain resources and valued subject-area content (fitting to their course). Another factor in choosing tools was the credibility of the resources they were using. Teachers used a mix of computer hardware that was available to them and student-owned mobile devices to supplement it. Teachers also used online resources for learning management, such as organizing content for lessons and having students turn in work. Teachers were not required to use specific resources or technology tools in their classes and had freedom with selecting both. Teachers valued online resources that offered

a large amount of primary and secondary source content that could be incorporated into lessons of their own design.

How do external factors influence the use of OPS?

External factors greatly influenced teachers' use of OPS in their instruction. All participants indicated that a lack of access to technology hindered frequent use of Internet-infused instruction. Time restraints and curricular requirements as issued by state standards also influence teachers when choosing topics to cover. They were prevented from using resources that required a large amount of instructional time. These external obstacles, however, did not prevent teachers from using online primary sources. Teachers made modifications to resources and mixed online and offline materials to suit the needs of their students while working within their contextual limitations.

How do internal factors (characteristics of the teacher) influence successful use of OPS?

Beliefs of the teachers influenced their decision when evaluating resources to use as well as the ways in which they were implemented. Teachers chose resources that they found credible or thought they had content relative to their subject. Teachers felt that primary sources provide personal stories and validity to content being covered in class. However, teachers demonstrated little evidence of holding pedagogical preferences aligned with notions of constructivism or historical thinking. Lessons with primary sources served as ways to supplement course topics and students were guided to come to a fixed conclusion from evaluating images, documents, and first-hand accounts.

IMPLICATIONS

By investigating in-service history teachers' use of Internet-based tools, the complexities of implementing technology in the history classroom were highlighted. Although advancements in Internet resources for history and increased familiarity with technology does not ensure constructivist approaches in the history classroom, this study has implications for both instructional design of Internet-based educational tools and teacher preparation.

Standards and time restraints

Online educational resources for history often center on individual historic events or topics and can require a great deal of instructional time. State standards require secondary history courses to cover a great deal of information. This makes it difficult to spend too much time on any one topic. Additionally, the logistics with using hardware (e.g. logging into computers, keeping devices charged, etc.) requires classroom time. Teachers and students may not have access to hardware for consecutive days. These issues should be kept in mind when designing instructional resources for history. Resources should cover broad historic periods or topics and apply to specific state standards. Activities should be designed to be executed within one class period. Because reading and literacy skills need to be addressed in history class, designers should emphasize those aspects of resources as well.

Varying backgrounds of students

A diverse student population can increase the complexity of utilizing online primary sources. Students may read below their grade level or require accommodations for learning. Additionally, students may have varying background knowledge of history. Therefore, teachers need to be familiar with techniques to provide scaffolding and support

for all students using primary sources. This could be addressed in the form of classroom support from ESL teachers who are also trained in constructivist approaches in history. Additionally, teacher preparation programs and continuing education for in-service history teachers should provide training in teaching diverse population with online primary sources. Instructional designers creating online educational resources should also be aware of the diverse needs of students. Resources should include accommodations or allow for modification to ensure that the largest amount possible of student populations can make use of the product.

Mixed use of technology

Just as student backgrounds and abilities will be diverse, so will the availability of technology in schools. Although computer technology and network infrastructure is widely available in schools, it can't be assumed that this technology is of high-quality or consistently available to all students in schools. Teachers may have to supplement available technology with traditional materials or student-owned devices. Bring your own device policies may benefit schools by adding technology, but it also invites a larger diversity of devices that will be used in the classroom. As such, it is important to avoid placing too much emphasis on any one specific device. Resources should be usable on multiple platforms and if possible, work in offline modes.

Instructional resources should be designed to operate on multiple platforms, just as teacher preparation should focus on broadly applicable practices, rather than using a particular device. Future teachers cannot predict the technology that will be available in their schools, and the technology provided in school will change a great deal over the course of their careers. Therefore, the emphasis for teacher education should encourage

teachers to find technology that best suits their pedagogical preferences and goals, and not focus on any specific technology.

Seek teacher input and conduct classroom testing

Designing resources for the K-12 classroom requires insight to the needs of the learners, as well as the needs of instructors. While the learners for these materials are students, it is the teachers who are implementing the resources. Instructional design learner analysis and evaluation may not be sufficient, as the user is generally the teacher. As such, there should be formative evaluation or user testing within a classroom setting to better understand the contextual limits of classroom teaching. By evaluating usage in an authentic setting, instructional designers can gain insight from end-users to develop more useful resources.

Focus on pedagogical underpinnings of historical thinking

The abundance of primary sources available online affords the ability of anyone to conduct authentic historical research. However, the current study reaffirmed that democratized access to OPS does not change teacher practices. Primary sources are important for providing deeper context of historical events and humanizing historical figures. However, simply providing primary sources to supplement a fixed narrative of history or to bring students to the "right" answer fails to meet the constructivist goals of historical thinking. Teachers must be trained in best pedagogical practices for using primary sources. As such, it is important for teacher education programs to continue to emphasize constructivist-based implementation of primary sources as well as how Internet resources can help facilitate those approaches.

Conclusion

This study provides a number of issues regarding teachers' use of online resources in the history classroom. Findings indicate that middle school teachers were able to promote rudimentary historical thinking skills with their middle school students. However, student-led inquiry was not observed and instruction fell short of constructivist approaches for "doing" history. First order and contextual barriers still exist for technology incorporation in the form of limited access to technology, and curricular restraints and pressures.

While this study adds to what is known of history teachers' use of online primary sources, there is more that we do not know. Barriers to technology incorporation still exist, but those barriers did not prevent technology incorporation. This study highlights the importance of the internet for content and tools for teachers. However, the availability and willingness to use these resources does not necessarily transform historical investigation. While there is evidence that teachers use prepared history education resources, the majority of observed usage was that teachers pick elements that pertain to their own instructional design. Additional research is recommended on usage of technology in the history classroom and how teachers are actually using the technology. As teachers rely more and more on the Internet for resources, they begin to curate their own resources. Investigation into the ways teachers collect and modify resources will provide insight into the practical application of instructional technology. Likewise, as teachers rely on student-owned devices and a mix of different hardware, there is room for research on how teachers supplement available technology in order to make use of Internet-based materials.

APPENDICES

Appendix A – Recruitment letter to participants

Hello:

My name is Rob Scordino and I am conducting a study for my dissertation at the University of Texas College of Education. My research focus is on social studies teachers' use of online resources and technology. I am looking for teachers to participate in my study. Specifically, I am looking for teachers who access primary sources (documents, images, audio/video, etc.) online and encourage students to learn through the analysis of those sources.

If you choose to participate in this study, you will be asked to take part in a short, audio-recorded interview, which can be done in person or over the phone (or Skype/Google Hangout/etc.). The total time required for this interview will be approximately 30 minutes. Questions will focus on your pedagogical background and practices, as well as your experience with and use of technology in the classroom. No demographic or identifying information will be recorded for this study, and at no point will your name, the name of your school, or the name of your district be used in this study.

If you would be willing to participate in this study, please contact me at robscordino@utexas.edu, and I will provide you with further details. Participation in any or all parts of this study is completely optional, and you may withdraw participation at any time.

Rob Scordino, M.Ed.
Ph.D. Candidate, Dept. of Curriculum and Instruction
University of Texas, Austin
*******@****.edu
512.***.****

Appendix B - Survey for potential participants

If you are here, then you have agreed to participate in my study. Please complete this short survey about your teaching background and practices.

It may be helpful to clarify some of the terms that I will be using in this study. You are likely familiar with most or all of these terms, but if not, I have given a short explanation of each. Clicking on the term will bring you to the Wikipedia entry on the subject. (I'm sure the teacher in you is ready to berate me for using Wikipedia, but I assure you, it is sufficient for our purpose!)

Constructivist: A philosophy of, or approach to, education asserting that learners build upon their prior knowledge through active, experiential learning. As such, knowledge is "constructed" differently within each learner, and is heavily influenced by that learner's background, individual experiences, and interpretations. This philosophy contrasts itself to the "sage on the stage" model of instruction; in which a teacher (or textbook, video, etc.) transfers knowledge to the student through direct instruction.

Scaffold(ing): Providing support to students as they learn new concepts or content. Examples of scaffolding include: modeling for students, providing templates or guides, providing necessary background information ("front-loading"), directing students to resources, addressing misconceptions, and providing constructive feedback. Scaffolds are usually set in place and eventually lessened or removed as students develop self-directed learning.

(Online) Primary Source: An image, document, account, or recording taken during the time of the period being studied. By "online," I am sampling referring to those primary sources have been digitized and available online through a database or website.

Historical thinking: A constructivist approach to learning history that requires students to analyze primary sources and use critical thinking skills to develop an understanding of a historical event.

Webtools: This is a generic term I use to encompass anything internet-based that you may use during your instruction. This could include websites, activities on the web, programs that you access through the web (such as VoiceThread or Glogster), social media (Facebook, Twitter, etc.)or Apps that connect to the internet (History Pin.

Web 2.0: This is sort of a buzz term to describe websites and tools that allow the producing, sharing, or editing of webcontent and/or collaboration over the web. This includes media sharing sites (e.g. YouTube), social networking, blogs, and wikis.
Thank you again for agreeing to participate in my study.

I am going to ask you a few simple questions to make sure that you meet the study criteria. (However, if you are this far, I have spoken to you and am pretty certain you are a good fit.) Another more practical purpose of this questionnaire is to streamline the interview process so I take up as little time as possible from your schedule. You are allowed to skip any questions, but please try to answer all of them. Please be honest with your answers, you will have the opportunity to clarify any responses during the interview.

Just a reminder:
This information is confidential and not tied to your name or other identifying information. If you have any questions or concerns, do not hesitate to contact me at *****@****.edu.

Questions:

Do you teach using primary sources?

What do you *currently* teach? (Grade level and subject, use different lines if you teach multiple grades or subjects.)

How many years have you taught at this level/subject?

What have you taught *in the past*? (Grade level and subject, use different lines if you teach multiple grades or subjects.)

About how many total years have you taught?

4- year degrees
- Bachelors in History
- Bachelors in Other Social Studies Field (Econ, Poli Sci, Anthro, Psych, Sociology)
- Bachelors in Education
- Bachelors in another core content area (e.g. English/Lit, Sciences, Math)
- Bachelors in unrelated field (e.g. Business, other area)

Have you completed graduate work towards a Masters Degree?
- No. Some or in progress. Completed a Masters degree or equivalent.
- Master's in History
- Master's in other Social Science
- Master's in Education
- Masters in other Content Area

Have you completed work beyond a Masters Degree, such as a PhD, EdD, or EdS?

No
Some or in progress.
Doctorate in History
Doctorate in other social science
Doctorate in Education
Doctorate in other Content Area

If you have a specialist degree or certificate (non-degree) related to teaching, list it here.

Which of these describes your approach to teaching history? (Try selecting one, but you can select as many as you'd like.)

I mainly teach though lectures and presentations.
I teach through lectures mixed with group discussion.
I teach though lectures often to cover large amounts of content, but will spend some time with lessons that include role-playing, debates, or student-led investigation of historical events.
I lecture rarely, and instead rely mostly on student-led inquiry.
I consider myself to have a completely constructivist approach to teaching and learning, and primarily serve to scaffold and facilitate student learning.
I use two or more of these approaches, based on what I feel is most appropriate for each class/subject/age group.

In a sentence or two (or more if you would like), explain what you believe to be the purpose of history education.

Do your students use web technologies to:

Gather primary sources (e.g. downloading pictures from Google Images or documents from online archives)?

Yes - No

Analyze primary sources (e.g. investigations through a WebQuest or activity online)

Yes - No

Demonstrate what they learn (e.g. making a VoiceThread presentation or posting a video online)

Yes - No

What websites do you or your students visit to gather or analyze primary sources?
Google or other image searches
Library of Congress
National Archives
Presidential Library sites

List others (I'd prefer the web address, but if you just know the title or can give a description, that will work)

What websites do your students use (or have used in the past) to create presentations, or in some other way demonstrate what they learned?

Prezi
XTra Normal
VoiceThread
SlideShare/Scribd/Other presentation sharing
Vimeo/YouTube/TeacherTube
Glogster
Personal or class website (such as district webspace or a Google Site)

If you would like to clarify any of your above answers, you may do that in this space.

Appendix C - Semi-structured interview protocol

How do participating teachers use online primary sources and related tools in their instruction to promote historical thinking?

1. What specific tools/resources do teachers use and what elements of those tools do they find useful?
2. How do internal factors (characteristics of the teacher) influence successful use of OPS?
3. How do external factors (characteristics of the environment or the technology) influence the use of OPS?

Pedagogical approach for history education.

What is the purpose of history education?

Why do you use primary sources?
For what topics do you find primary sources most helpful?
What would your instruction look like if the Internet didn't exist?

Technology proficiency

Describe your background in technology.

Training- formal or informal
Use – Internet/software
Opinions of technology

Technology preference

Where do you get primary sources for your class?

Website/ collection/ etc.

What made you choose this site?

Design

Ease of use
Amount of content

Access to resources

Describe the access to technology in your school and classroom.
Computer lab/ in class?
Computer to student ratio
Quality/ reliability of computers
What influenced you to teach through primary sources?

Teacher ed.?
Schools of thought?
Other teachers/ admin/ etc.?

Human infrastructure

What type of support do you have in place that helps you teach through historical inquiry?

Admin/ media/ tech. staff

Do you work with other teachers at your school to develop plan lessons

Difficulties

Time

Addressing state Standards

Unreliable technology

Other

Appendix D: Observation protocol

Participant: **Time in:**
Date: **Time out:**

Description of classroom/environment:

Where is the teacher?

How are students grouped and spaced?

What technology is being used? What isn't?

What instructional

What other items are in the environment? What is on the walls, what is on

Where are the "student spaces?" Where are the "teacher spaces?"

Describe the instruction:

What is the topic being covered?

What is the teacher doing?

What are students doing?

What technology is being used?

Describe the technology:

What websites are being visited, and by whom?

How is the teacher using content, how are the students using it?

What hardware is being used? What software?

Describe the classroom management:

What are the procedures? Do they seem rigid/flexible?

What are the expectations of the students? Do they

How does the teacher deal with behavior/off task/interruptions?

Describe interactions:

What is the role of the teacher. Does it change?

What is the role of the students?

How does the teacher address students as a whole? In groups? Individually?

How do students interact with one another?

Describe subtle factors:

Informal or unplanned activities?

Nonverbal communication?

What is not happening?

Reflections:

How does this space make me feel?

What is the impact of my presence?

Appendix E – Consent form

CONSENT FORM

Factors influencing social studies teachers' successful integration of primary resources to promote historical thinking

You are being asked to participate in a research study. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information detailed in this form and ask any questions you might have before deciding whether or not to participate. Participation is entirely voluntary. You can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You may end participation at any time and your refusal will not impact current for future relationships with UT Austin. Likewise, participation in the study will not be used as an evaluation of job performance and will not affect the relationship with any school or district. To stop participation simply tell the researcher that you no longer wish to continue in the study. The researcher will provide you with a copy of this consent for your records.

The purpose of this study is to better understand characteristics of teachers and the resources that they use that allows for effective incorporation of primary resources to promote historical thinking.

If you agree to be in this study, you will be asked to do the following things:

- Take part in a brief audio-recorded interview (approx. 45 mins.) During the interview, you will be asked about your experiences teaching with primary resources. If further clarification is needed, you may be contacted by phone or email following the interview. These interviews will be transcribed by the researcher.
- Provide lesson plans of lessons discussed in the initial interview.
- Allow the researcher to take digital photographs or reproductions of any lesson plans or other relevant documents you offer.

If you agree to participate in the observation phase of this study, you will be asked to do the following things:

- Allow the researcher to observe your teaching. These observation sessions will be scheduled between you and the researcher in advance. Observation notes regarding your use of online primary sources will be taken by the researcher.
- Participate in a follow-up audio-recorded interview to discuss and clarify themes that may arise during observation.

Total estimated time to participate in study is about one hour total (45 mins. for interview, extra time to respond to possible follow-up questions via email). The

participant may be contacted over the several month period over which this study takes place.
If the participant agrees to be observed, they will be observed up to 3 times over a 6-month period. Observation sessions will be between one and two hours.

Risks of being in the study

- This study may involve the risk of a loss of participant confidentiality and/or risks that are currently unforeseeable.
  Potential for this or any other risk is minimal. If you wish to discuss this further, you may ask questions now or call the Principal Investigator (Rob Scordino) at 321-***-**** and/or *****@*****.edu.

Benefits of being in the study

- There are no direct benefits from participating in this study. The participant will indirectly benefit from this study by being given the opportunity to take part in research that may positively contribute to the field of social studies education.

Compensation:

- You will not receive compensation for participating in this study.

Confidentiality and Privacy Protections:

- All data will be kept in digital format and under strict password protection in a secure location. Your real name will not be used or given out in published research; instead, a pseudonym will be used.
- Audio files, transcript files, and field notes (if applicable) will be labeled with unique numbers instead of identifiable names.
- After transcription, all audio files will be deleted. Transcripts of interviews, as well as any documents provided will be maintained in a secure location for at least 3 years (as per university policy).
- Participant will not be asked for any identifying information about participant's school, district, etc. If such information is unintentionally offered, it will be obscured (in the case of document reproduction) or replaced with a pseudonym (in the case of transcribed interview).

The **records** of this study will be stored securely and kept confidential. Authorized persons from The University of Texas at Austin and members of the Institutional Review Board have the legal right to review research records and will protect the **confidentiality** of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify you as a subject. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

Contacts and Questions:

If you have any questions about the study please ask now. If you have questions later or want additional information, call the researcher conducting the study at 321-***-**** (Rob Scordino, ***@*****.edu). If you have questions about your rights as a research participant, complaints, concerns, or questions about the research please contact **The Office of Research Support at The University of Texas at Austin** at (512) 471-8871 or email: orsc@uts.cc.utexas.edu.

You are making a decision about participating in this study. If you wish to participate, please send an email to me (Rob Scordino) to give your consent. You may discontinue participation at any time. If you later decide that you wish to withdraw your consent to participate in the study, simply tell me through phone, email, or in person.

Please keep this copy of the consent form.

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